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## ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding  
that they are contributed exclusively to THE LARYNGOSCOPE.)

### PRIMARY EPITHELIOMA OF THE TONSIL.\*

BY J. M. INGERSOLL, A.M., M.D., CLEVELAND, OHIO.

Primary epithelioma of the tonsil is a rare condition; about 120 authentic cases have been reported. It is estimated by Jonathan Wright to occur about once in two thousand cases of carcinoma of all parts of the body.

The report of the following case is of interest, therefore, on account of its rarity. M. G. was a well-developed, muscular Irishman, forty-two years of age; his family and personal history were negative. Thirteen weeks before he was first seen by me he noticed that his right tonsil began to enlarge slowly and was slightly painful; the tonsil continued to increase in size, and at two different times it had been amputated with a tonsillotome.

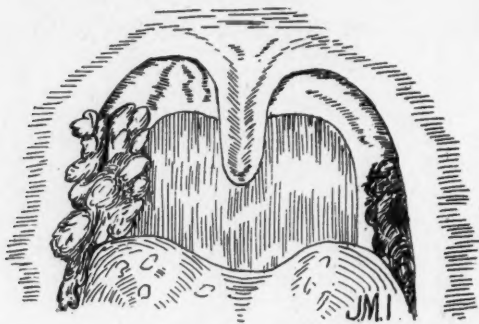
When he consulted me the whole respiratory tract, except the right tonsil, was normal. He said he felt well except for the pain in the tonsil, which had been steadily increasing. The tonsil was covered by a fairly firm, irregular, fungoid mass, projecting out about 2 c.m. beyond the anterior pillar. The whole surface presented an uneven, cauliflower-like appearance covered by a mucopurulent secretion. The mass extended upward on to the soft palate, involving both the anterior and posterior pillars; it also followed the anterior pillar downward and extended on to the tongue; posteriorly the growth extended along the posterior pillar downward to its attachment to the pharyngeal wall, but the wall

\* Reported to the Cleveland Medical Society, March 9, 1900.

itself was not involved. The surrounding tissue was inflamed and infiltrated. The lymphatic glands at the angle of the jaw, on the right side, were involved.

From the macroscopic appearance of the tumor the diagnosis of a malignant growth was made and a piece was removed and submitted to Dr. Perkins for microscopical examination: he reported it to be a typical epithelioma.

I explained the situation to the patient and advised him to submit to a radical operation, telling him that such an operation offered him the only possible hope of recovery, and that without an operation he might live a few months, but probably not longer than a year or a year and a half. He asked me if I would promise



Epithelioma of right tonsil.

a cure and I told him "No." He never returned to me. When I last heard of him, he was being treated by a "cancer specialist," who had told him that he would guarantee a cure for \$300 cash, or treat him, without a guarantee, for \$150. It is to be hoped that the patient accepted the latter generous offer and thereby saved enough money to pay for his own funeral expenses.

The accompanying drawing from life shows the position and gross appearance of the tumor.

(Since I reported this case I have learned that the patient died in the office of the "cancer specialist" a few weeks later.)

50 Euclid Avenue.

## SIGMOID SINUS THROMBOSIS.

BY JAMES F. M'KERNON, M.D., NEW YORK.

### PART II.

(Continued from page 306.)

*Case IV. Pyemic Sinus Thrombosis Complicating Purulent Mastoiditis, with Multiple Epidural Abscess, Caused by an Acute Otitis Media. Operation. Recovery.*

C. S., aged fifty-six years, native of Sweden, was referred to me July 25, 1898, giving a history as follows:

Had always been in good health, with the exception of an attack of smallpox in 1874 and an attack of acute gastritis in 1893.

He said that ten weeks before, after three operations on the left nostril for the removal of polypi, he suffered an attack of facial erysipelas, which lasted two weeks. One week later there was intense pain in his left ear, which pain continued for four days, and was so severe it prevented him from obtaining any sleep. At the expiration of this time the drum membrane ruptured, a discharge of pus followed, and the pain was somewhat relieved for two days. On the third day after the rupture of the drum, pain began again, and continued at irregular intervals for the next five days, but it was not so severe that he could not sleep part of each night.

Nine days after the ear pain began he experienced pain in front of his left ear, and the next day a swelling developed, gradually encroaching upon the left cheek. Leeches were applied to this swelling in front of the ear, followed by the application of a hot water bag, and some relief from the pain was obtained. For ten days before he came under my care he complained of almost constant pain over the left side of the head.

Upon examination of the ear a profuse purulent discharge was found coming from the left external auditory meatus, and upon wiping this away, to inspect the deeper structures of the canal, nothing could be seen save a prolapse of the superior and posterior canal walls, which looked red and edematous. In front of the tragus was an irregular swelling, covering nearly the whole of the left cheek and extending downward below the angle of the jaw, which swelling was an enlarged parotid gland with inflammatory tissues surrounding it.

This was extremely tender under pressure and edematous over its central and lower half. There was marked tenderness over the mastoid antrum and at the tip. There was also a fulness of the tissues above and back of the ear corresponding to the temporal ridge, but no tenderness was found upon pressure. There was, however, marked tenderness upon pressure over the left side of the head, particularly over the middle fossa. His temperature registered 100.8° F., pulse 86. The tongue was furred, the breath bad, with a slight odor, and he was intensely nervous.

The discharge from the canal was examined and found to contain streptococci in abundance; also a large number of staphylococci was present. A diagnosis of purulent mastoiditis was made, and opening the mastoid was advised without delay, but this was objected to, the patient saying he felt better now than at any time during the past week. Against the advice received, he went into the country that afternoon, but returned the next day, saying he had had a bad night, with pain in the left ear and headache on the same side, and thought he would remain in the city for a day or two and see how he felt.

He was advised to take a room at the hospital and have an operation that day. He consented to go into the hospital, but as he had heard of ear trouble being stopped by ice bags and various medicament, he insisted that this be tried first. He was put to bed, a free incision was made in the prolapsed canal wall, the bowels thoroughly evacuated, an ice coil applied, not, however, with any hope that it would help the disease, but because something had to be done, and the canal was irrigated with bichloride  $\frac{1}{4000}$  every two hours.

The next day, July 27th, he felt very comfortable, and said he was sure no operation would be necessary; temperature 100, pulse 74.

The coil was removed that evening and he passed a restless night, complaining of headache and ear pain continually. The discharge was now very profuse, a greater tenderness existing over the mastoid than heretofore, with slight edema just anterior to the position of the mastoid antrum. The patient was told he could submit to an operation or he would be discharged, as no more responsibility would be accepted unless an immediate operation was consented to. He reluctantly gave his permission, and as the urine was negative he was taken to the operating room.



*Operation*—Ether was administered, and the usual curvilinear incision over the mastoid was made from the tip to a point one inch above the posterior root of the zygoma, through the soft tissues and periosteum to the bone. The periosteum, which was easily detachable, was retracted backward, the auricle forward, and the surface of the mastoid exposed, which was dark in color and prominent as to size, showing a well-marked supra-meatal spine. Upon opening the antrum an abundance of creamy pus flowed freely outward. The antrum was cleansed of the pus and some granulation tissue, and free communication established through the aditus with the middle ear. The cortex, which was softened, was removed with a ronguer, exposing the cellular mastoid spaces, all of which were filled with pus. The intercellular bone was very dark in color, and found to be soft and necrosed. The cells were obliterated and the inner table found wanting over a considerable area, showing the dura covered with necrotic granulations and bathed in pus. Large medullary spaces were discovered extending back into the occipital bone. On account of this, it became necessary to make an incision backward through the soft parts, at right angles to the former incision, for a distance of two inches, in order that the softened cortex might be further removed and the medullary spaces be reached and obliterated. The bony wall between the antrum and middle fossa was softened and necrotic, and upon removing this, pus, creamy in character, came from the dura, where it had been walled off after its penetration through the bone tissue below.

The sigmoid groove was removed, and in working backward and downward, posterior to the knee of the sinus, the curette passed easily through the bony wall, and before it could be withdrawn, pus, rather dark in color, came through the opening just made. This opening was enlarged, and all softened tissue removed for an area of over an inch. The dura was darker in color than normal and covered with granulations, which were removed with the aid of a dull curette and thumb forceps.

In removing the softened bone over that portion of the sigmoid sinus above the knee, the ronguer was used, and in biting off a small piece of bone a softened and diseased section of the sinus wall, about half as large as the little finger nail, tore away, adhering to the inner surface of the bone. This caused troublesome hemorrhage for a moment, but was soon controlled by packing iodoform gauze over and against the opening.

The further removal of necrotic bone, granulations and pus was continued with until the entire apophysis was taken away and a

considerable area of the occipital bone as well. As the blood current within the sinus seemed normal at the time of its accidental opening no further exploration was deemed necessary here. The wound surface was irrigated with bichloride and packed with iodoform gauze in the following manner:

A single piece was put over the puncture in the sinus and separate pieces were used for each exposed portion of the dura, thus walling off from infection each individual part from the general mastoid cavity, which was firmly packed together with a single piece, carried through the aditus to the middle ear, the usual external dressing was applied, and the patient was returned to his room in very good condition and passed a comfortable night.

The following day his temperature was 102 F., pulse 86, and, though weak, he said he felt better than for several weeks previous. On account of the weakened condition of the pulse he was given by mouth  $\frac{1}{80}$ th of a grain of strychnia at 12 m. At 2 p. m. he felt slightly nauseated and attributed it to the tablet of strychnia he had taken. The tablet was discontinued, and save for a slight headache over the left side he passed a comfortable day and night.

July 30th, two days after the operation, the temperature was 99.2, pulse 82, the bowels were moved, and he took the ordinary nourishment of milk, broth, etc. That night he complained of pain in both ears, and insisted that he was going to have just the same form of trouble in the right ear as in the left. Upon examining the right ear and reporting it negative he went to sleep and passed a good night.

Next day his temperature was 99.6, pulse 88, and he complained of considerable pain in the wound region, was disinclined to take food, and was nervous and fretful. In the afternoon, while still complaining of pain in the wound, the dressing was removed except over the opening in the sinus, and all the parts found to be healthy. The parotid gland was greatly reduced in size and had lost much of its angry look and tenderness. The uncovered portion of the sinus on either side of the gauze, covering the opening, was examined and appeared normal. The wound was redressed, and during the remainder of the day and that night he rested very comfortably.

The next day, August 1st, his temperature was 100.2, pulse 88, and rather compressible. In the evening he complained again of head pains, and asked to have an ice cap applied, which was done, and he soon went to sleep and rested well until morning. That day, August 2d, his temperature in the morning was 100, pulse 94,

tongue furred, bad odor from breath, and felt a disinclination for food of any kind. Toward evening he felt nauseated, but did not vomit, and seemed rather dull and apathetic. The evening temperature was 101, pulse 100, and he passed a restless night. Next morning the temperature was 101.4, pulse 98. He was very dull all the morning, and would sleep at intervals, then start up suddenly and want to get out of bed and sit up. At noon he complained of a dull pain all along his spinal column, extending to the top of his head. In the afternoon he became very restless, his temperature reaching 102.8, pulse 105, and he again complained of nausea. At 10:30 in the evening he vomited a small quantity of greenish looking mucus. After this he became exceedingly restless, and his temperature rose to 103.4, pulse 120 and weak.

I was sent for by the house surgeon, and advised the patient's wife, who was present, that it would be necessary to operate as soon as possible, as I believed we had an infected thrombus to deal with. She requested that the operation be postponed until morning, which was done, and during the remainder of the night he twice vomited mucus of the same character as before, felt chilly, was at times delirious, insisted on sitting up, and was exceedingly restless.

In the morning there was a marked change for the worse in his condition. His temperature was slowly rising, and at 8 a. m. it had reached 104.2, pulse 130 and weak, tongue very dry and heavily furred, and the skin which before had been normal in color, was of a yellowish tinge, and he was in a partially unconscious state. There was also some slight tenderness along the upper part of the internal jugular in the neck.

His wife now consented to the operation, and a hypodermic of  $\frac{1}{30}$ th of a grain of strychnine was given and he was taken to the operating room.

*Second Operation*—Ether was again administered, the dressing entirely removed from the wound surface, and the field of operation cleansed with bichloride and later with hydrogen peroxide, full strength. The portion of the sinus which was exposed at the former operation was seen to be of a dark green color and felt soft to the touch.

The sinus was aspirated, with negative result, and was now rapidly uncovered, an incision being made in the soft part directly backward and the flaps retracted above and below, so as to further facilitate exposure of the sinus. The bone over the sinus was removed toward the torcular for a distance of two inches, and below

down to the jugular bulb. A linear incision was now made throughout the whole length of the exposed sinus wall from the point uncovered above, to the bulb, and at once pus oozed from the lower half of the lumen of the blood channel. The upper part was occupied by a partially disintegrated clot, together with granulations and some pus. This space from end to end was cleansed of its contents and hemorrhage, which was let flow for a few seconds, established from the proximal end, so that in case any septic material was present it would be carried out and away by the flow. A piece of iodoform gauze was placed against the opening to control the hemorrhage. The part below was again cleansed, and the posterior sinus wall examined in the region of the cerebellum, but save for a slight amount of discoloration it appeared normal.

An attempt was now made to establish the current below at the bulb. This was found to be more difficult than above, but by using a very small wire curette the flow was here also established and gauze packed into the bulb to control the return flow.

During the operation the several sites of exposed dura were kept covered with folded pieces of gauze so as not to reinfect these areas. After again irrigating the exposed surface, the wound was packed with iodoform gauze in the manner above described, a bandage applied and the patient taken to his room.

During the operation the pulse became very weak several times and hypodermic injections of strychnine were used three times,  $\frac{1}{100}$ th of a grain each time.

Upon reaching his room the pulse became very weak and he seemed on the verge of complete collapse. The foot of the bed was elevated and a rectal injection of a normal salt solution, one quart, at a temperature of  $116^{\circ}$  F. was thrown into the rectum and held there by means of an assistant with a compress. Several hypodermics of brandy were quickly injected and external heat applied by means of hot water bags and bottles. Under this treatment he rallied somewhat for a few minutes, but the pulse remained very rapid and weak.

Arrangements were at once made to transfuse him with a normal salt solution, but, in the few minutes, while this was being prepared, he rallied, the pulse becoming stronger and the skin a better color.

In two hours another rectal injection of a normal salt solution was used at the same temperature, and from this time on the pulse remained fairly good.

Six hours after his removal from the operating room the temperature was 99.3, pulse 116, respiration 30. He complained of a

sharp pain in the back, in the kidney region, and hot flax seed poultices were at once applied and kept up continuously for twenty hours. During this time he voided urine twice, was rather restless and vomited a little mucus. Iced brandy was given by the mouth, but, after taking it once or twice, he refused more, saying it nauseated him.

As he had always been accustomed to drinking Irish whiskey when he was well this was ordered to alternate with small doses of champagne every hour. Later he refused the champagne on the same ground as the brandy, but kept to the whiskey, which he seemed to thrive on, and throughout the whole of his convalescence this was the only stimulant he could retain.

The night following the operation he slept about five hours at thirty minute intervals, perspired quite freely, and in the morning said he felt rested.

Twenty-four hours after the second operation the temperature was 99, pulse 94, skin moist, and he was perfectly rational when aroused, but did not want to answer questions. That evening he again complained of nausea, and at 11 p. m. said he felt very chilly, was restless, muttered to himself at intervals, and the temperature rose to 100.6, pulse 110, and he slept but little during the remainder of the night, and then only about ten minutes at a time.

August 6th, two days after the operation, the dressings were removed and the wound surface found in good condition.

For the next four days the temperature ranged from 99 to 101, pulse 86 to 112, weak at times, and in the early morning, between three and seven o'clock, would become irregular. Each night there was mild delirium, lasting sometimes for fully four hours, but during the day he was drowsy, and always refused to take nourishment, saying it made him sick at his stomach.

On the evening of the sixth day, after the operation, he felt chilly, complained of pain in the wound and pain in the back of the neck, and pressure over the internal jugular would cause him to wince, particularly high up near the mastoid wound.

The wound was dressed, and found to be looking well and healing nicely.

During the next three days the temperature ranged from 99 to 102.4, pulse 84 to 120. He did not rest well at night, and only for a few minutes at a time each day, was very thirsty, nervous, had twitching of the muscles of both arms, would have occasional coughing spells, with inclination to vomit after, and frequently complained of feeling chilly. At these times the skin would be

warm, but there was absence of moisture. His breath now became fetid, the stools were very dark in color, with an extremely foul odor, and he complained of flatulence and distress over the abdomen. For this he was given dilute hydrochloric acid, ten drops, in essence of pepsin, after taking food.

The wound was again inspected and found doing well. For the next four days he continued in much the same way, the temperature fluctuating several times a day, but never going higher than 102.4.

The night of the 17th, thirteen days after the evacuation of the pus from the sinus he had a decided chill, vomited, his temperature rose to 103.4, pulse became weak, and he complained of violent pain in the abdomen. Thinking I had here to deal with a metastatic abscess, the colon was flushed with several quarts of a weak boric acid solution, and this was soon followed by ten copious movements of the bowels within the next four hours. The character of the movements was at first dark, stained with blood and mucus, with a distinctive fetid odor. They then changed in character to blood and muco-pus. He was at once put on large doses of the bichloride of mercury internally,  $\frac{1}{20}$  th of a grain every two hours, at first, and later  $\frac{1}{12}$  th every three hours for twenty-four hours. He received stimulation and supporting nourishment, and the movements became less frequent, and in thirty-six hours ceased altogether, at which time the large dosage of bichloride was discontinued.

From this point on he made an uneventful recovery. The temperature dropped to normal and remained so, the pulse became stronger each day, he took more food, and there was absence of the nervousness, chilly feeling, and all other bad symptoms. The wound was dressed every three or four days, and he was soon able to be up and about, and left the hospital on August 31st, one month and six days after his entrance.

At the present time the hearing on the side affected is normal.

There are several points of particular interest in this case to the writer.

*First*—I wish to call attention to the development of the otitis and subsequently to the mastoiditis. That the acute otitis was the direct result, by extension, of the erysipelotus inflammation, traveling through the Eustachian tube and thus infecting the middle ear, I think there can be no question of doubt, as the discharges from the ear and canal showed the streptococci present. It would also be interesting to know if the erysipelas was the result of the operation on the man's nose or if he became infected afterwards.



*Second*—The very complete disintegration of the mastoid and the structures surrounding are, I think, accountable not alone to the length of time the disease existed, but to the virulence of the inflammation, as when streptococci exist in the discharges from the diseased ear we shall, I believe, always find a much greater amount of destruction than when they are absent.

*Third*—*Was my Wounding the Sinus, at the Mastoid Operation, the Cause of the Subsequent Thrombosis?* I believe it was. First, because the man did not show any evidence of a sinus involvement previous to the opening of the mastoid. Second, I believe, from the condition of the sinus, both as to sight and palpation, while operating, that there was a normal blood current within. On the other hand, I have seen subsequent involvement of the sinus in a simple mastoid operation, when the sinus was not even exposed, but where there were streptococci in abundance in the pus from the canal of the affected ear and from the pus that came from the mastoid antrum. So, if streptococci be present, the sinus is far more apt to be found involved, or to become so, than when they are absent. Cases confirmatory of this have been cited, where the sinus was uninvolved at the mastoid operation, but the pus from the middle ear and mastoid contained large numbers of streptococci, and later pyemic sinus thrombosis existed, with fatal results. Certainly, it becomes much easier for the micro-organism to enter the sinus if it find a gateway open, as in this case, than if it were not exposed, and for this reason I think the accidental opening was in this case the cause of the thrombosis.

*Fourth*—Was the removal of the granulations on the dura a contributing cause to the subsequent infection of the sinus? This may have been, as it is well known where granulations are present they act as a protection to the structures beneath them, and when once removed the free vascular supply to the part will cause a very rapid absorption to take place. However, in other cases, I have always removed the granulations when present, and there was no subsequent infection following.

*Fifth*—Another feature of importance is, that in this case, for nearly ten days after the sinus was evacuated of its contents, the patient did not convalesce satisfactorily, and more than once it seemed that it would be necessary to do another operation, but after the metastatic deposit in the intestines had been evacuated, carrying away the major part of the poison in the system, he gained very rapidly, showing that we must take into consideration the fact that in such cases absorption of the infective material has been



going on several hours, to say the least, previous to the operation, and it is not strange that with a system weakened from the disease it should take longer for elimination of the poisonous element to take place.

*Sixth*—In this case we did not have any sudden rise of temperature. It was gradual throughout, with a steady rise up to the time the sinus was opened, and this fact alone was very misleading, and, I must confess, very perplexing at the time when it came to the point of decision as to whether or not a thrombus existed.

*Case V. Pyemic Sigmoid Sinus Thrombosis, with Epidural Abscess and Double Ligation and Resection of Internal Jugular Vein. Operation. Recovery.*

"M. B." girl, aged fourteen years, a native of the United States, was admitted to my service at the New York Eye and Ear Infirmary, April 28, 1899. Her mother, who accompanied her, gave the following history:

When five years of age she had had an attack of diphtheria, and five weeks later she developed scarlet fever and since that time had been troubled with a running from the left ear. At times it would discharge very freely for weeks at a time, then stop gradually for a time to begin again if she took cold. While the ear was running she was free from pain, but the pain always began as the discharge lessened or stopped altogether.

For the past eight months it had been painful nearly all the time, being much worse at night. Three weeks before coming to the hospital the pain had been unusually severe, and for the previous ten days she had been unable to sleep.

Examination of the ears disclosed a purulent discharge, with very foul odor, coming from the canal on the left side. Further examination showed a large polypus in the canal, extending to the meatus, and the mastoid region was edematous and tender upon pressure over its entire area. The head was carried well over to the opposite side and there was marked facial paralysis on the side affected. The tissues as far back as the occipital protuberance were tender upon pressure, as was also the tissues over the upper half of the internal jugular vein, directly beneath the mastoid tip. The skin of the face was of a greenish-yellow color, the tongue heavily furred, and she presented all the appearance of a person suffering from sepsis and she continually spoke of the pain in that side of her head. Her temperature was 102.6°F., pulse 116. An operation was advised and accepted. The discharge from the canal was examined and found to contain staphylococci and streptococci in large numbers.

*Operation*—After the usual preparation of the patient, ether was administered, and the polypus from the canal first removed. It was attached to the posterior portion of the internal tympanic wall. While removing the polypus, the slightest pressure over the mastoid antrum would cause pus to flow from the auditory canal. After the removal of the polypus and the cleansing of the canal, it was found that there was an opening in the posterior wall of the canal at the junction of the cartilaginous and bony portion.

This opening admitted a bent probe directly through and back into the mastoid antrum, the posterior canal wall and medial plate being necrosed.

The mastoid was exposed in the usual manner, and in removing the periosteum from the cortex, it came away in pieces, owing to its diseased condition. The cortex was dark in color, with numerous perforations leading to its cellular structure beneath. Upon removing the cortex, pus was found everywhere in the mastoid, it being a good example of empyema of that structure. All of the mastoid cavity was curetted and softened bone found everywhere. The larger part of the posterior canal wall was removed, and in several places the facial nerve was exposed. There was perforation of the inner table over the sinus, and that portion of the cerebellum lying adjacent, through which foul-smelling pus made its way. The inner table was removed, over three inches of the sinus and a considerable part of the cerebellum behind and below it, and the dura covering these structures was found bathed in pus.

As the necrosed bone extended backward toward the occipital region, an incision through the soft parts was made at right angles to the mastoid incision and when the diseased bone was all removed, a space measuring over four inches from the canal wall backward was exposed. The dura over the whole surface was bulging, black and looked and felt like a piece of roughened leather. It was impossible to distinguish sinus from cerebellum, as the whole surface looked alike, though here and there areas of plastic lymph and granulations were present. The dura was uncovered and after considerable difficulty the sinus found and incised longitudinally, above the knee, with the result of evacuating considerable pus and grumous material. Carrying the incision of the sinus well backward, more pus was evacuated, a broken down clot was removed with the curette, and free hemorrhage established, which was let flow for a few seconds. Controlling the hemorrhage, by packing gauze against it, the lower portion of the sinus was now opened down to the bulb and its contents evacuated, which consisted of pus, broken down clot and granulations.

After two futile attempts to restore the return circulation from the bulb, it was determined to ligate and resect the internal jugular vein. The neck was prepared and it was with considerable difficulty that the internal jugular was exposed on account of the matting down of the tissues and the glandular involvement in this region. The anterior jugular vein was much larger than usual, as was also the superior thyroid vein. Several diseased glands were removed in the course of the dissection, two unusually large ones at the angle of the jaw. After exposure of the internal jugular and ligation at the clavicle below and the bulb above, it was excised and removed between these points. The upper two and a half inches was distended with a septic clot, while below to near the point of ligation it was collapsed, and this in part explained the difficulty in at first finding it when cutting down upon it. The facial vein was also ligated, and a portion of it removed. The tissues were flushed with a hot saline solution, and closed as rapidly as possible from end to end, with a continuous silk suture, the mastoid wound being packed in the usual manner.

During the last fifteen minutes of the operation the patient was stimulated constantly with strychnine, nitro-glycerine and brandy, and before leaving the operating room a warm salt solution, twenty ounces at a temperature of 118°F. was injected into the rectum. This brought the pulse up sufficiently to enable us to remove her to the ward, but as soon as she was placed in bed she collapsed completely.

A very hot normal salt solution was quickly injected into the cellular tissue on both sides of the abdomen. Oxygen was used freely, the bed elevated and she was surrounded by hot packs.

She responded but slowly to all our efforts and for an hour it looked as though she would die at almost any moment. As the oxygen seemed to do her the most good, this was administered at intervals of two minutes each, and in this way she rallied slowly.

Six hours after the operation the temperature registered 102.6°, pulse 156.

From this time on she gained steadily, and for the next five days the temperature ranged from 99° F. to 103°F., never going higher than the latter point.

The wound was dressed on the fifth day and found doing well, and from this time on until her discharge from the hospital twenty days later the temperature gradually dropped until on the twelfth day, it reached normal and did not go beyond 99° during the rest of her convalescence. The pulse for the first three weeks did not

go below 112 to the minute, often being as rapid as 160 per minute, and at the present time—two months and a half after the operation, it ranges from 96 to 110 per minute.

During the whole of her convalescence, the skin of the face, neck and left arm presented a peculiarly blue tint, due, no doubt, to the changes taking place in the venous circulation.

The sutures in the neck wound were all removed on the eighth day, and there was primary union throughout.

One month after the operation, treatment of the facial paralysis was begun by using galvanism, alternating at the end of two weeks, with faradism and facial massage with the result that the paralysis is gradually disappearing.

Her hearing on the side operated upon for the whisper is now ten feet.

During the third week of convalescence she developed a metastatic abscess of the second joint of the third finger of the left hand, which, upon being opened, quickly healed.

*Case VI. Pyemic Sigmoid Sinus Thrombosis, with Abscess of Cerebellum, Double Ligation of Internal Jugular Vein, with Resection of the Vein. Operation. Recovery.*

"L. H.," girl, twenty years of age, native of the United States, was referred to me for treatment, May 22, 1899.

The history she gave was, that when nine years of age she had an attack of measles, and this had left her with a discharge from the right ear, which discharge had continued at irregular intervals ever since. At times the discharge would be accompanied by ear-ache, but never to cause her any great annoyance until three weeks before, when there was severe pain in the right ear for four days, and the discharge became much thicker and of a green color. After one week of the pain in the ear she suffered intense headache on the right side and over the mastoid.

As she was at a distance from medical advice, all the treatment she received was an application of a flaxseed poultice over the ear and the right side of the head.

Two weeks after the ear pain began she suffered from chills and fever, and vomited several times. She was then brought to the city and placed under treatment, which consisted of free drainage of the middle ear, irrigation of the canal with bichloride  $\frac{1}{4000}$  every two hours, and an ice coil over the mastoid. Under this treatment the pain subsided somewhat, and the coil was left on for four days.

Upon removing it the pain began again, and two days later I was asked to see her.

She was a large woman, well developed, with an unusually good physique.

Inspection of the ears showed a thick discharge of greenish pus coming from the external auditory meatus of the right side. Upon wiping the discharge away, a prominent bulging and sagging into the canal of the superior and posterior walls was seen. There was but little swelling over the mastoid, and this was at the tip. The whole mastoid surface was exceedingly tender upon pressure, and this tenderness extended backward and below in the occipital region. There was also very acute tenderness below the mastoid tip, over the region of the internal jugular vein. Several glands were also enlarged and tender along the anterior border of the sterno-mastoid muscle. The lightest percussion of the occipital region on that side would cause the patient to scream out with pain.

A diagnosis of purulent mastoiditis, with probable thrombosis, was made and an operation advised without delay.

As the patient wished her mother to be with her when the operation was performed, it was postponed until the following day, when she was admitted to the hospital.

The discharge from the canal was examined, and large numbers of the staphylococci and streptococci were found, the latter being long and unusually large.

*Operation.* Ether was administered, the usual mastoid incision made, and upon exposure of the cortex it was found very much darkened and soft, so that it was not necessary to use a chisel in entering the antrum, as the bone was so soft that it readily gave way under the curette.

The whole mastoid area beneath the cortex was one abscess cavity, the pus dark in color and very abundant. After cleansing this, softened bone was found over the sigmoid groove and posterior to it for two and a half inches. Upon removing this softened bone the dura was exposed, and seen to be covered with plastic lymph and granulations.

A very noticeable feature at this stage was the marked prominence of the sinus. Both above and below its bend it stood out as though pushed there from pressure beneath and behind it, and, as later events showed, this was actually the case.

After establishing free communication with the tympanum through the aditus, and the removal of the tip as well as all soft-

ened bone, the lower portion of the sinus below the knee was uncovered to the bulb, the field then flushed with hydrogen peroxide, and this was followed by alcohol. There was no pulsation at the sinus present, either visual or by palpation, but it felt hard and roughened, considerably more so than the dura over the cerebellum adjacent.

It was uncovered freely above the knee for over two inches, opened, and a disintegrated thrombus, consisting of pus, fibrin, lymph and broken down blood clot removed. After the removal of this substance there was but very slight hemorrhage, but upon using the curette farther back within the lumen of the vessel, a portion of the clot that had broken off and partially obstructed the vessel was removed. After this free bleeding took place for a few seconds, and was then controlled by packing gauze against the lumen of the vessel.

The dura over the lower portion of the sinus, from the knee to the bulb, was now excised, this was followed by a free discharge of pus, and the dura over the cerebellum in this region at once collapsed somewhat. After clearing away the pus it was seen that there was a communication between the posterior wall of the sinus and the right cavity of the cerebellum, through which pus was finding its way to the surface. This opening was enlarged sufficiently to admit the passage of the finger, which was inserted into the cavity, and a space about two and a half inches in depth, extending beneath and posterior to the sinus was found. Upon withdrawing the finger more pus and broken down brain substance came away through this opening. The cavity was gently syringed with a hot normal salt solution, until all the debris was removed, and then loosely packed with sterile gauze and covered with a compress soaked in the salt solution. The lower portion of the sinus at the bulb was relieved of more pus and broken down clot, but this failed to establish bleeding, so it was decided to ligate and resect the internal jugular vein.

The neck region was prepared as quickly as possible, and the internal jugular vein exposed, which was found to be enormously enlarged and distended in the upper half of its course. Just below the bulb it measured one inch transversely, and bulged very prominently into the wound. The facial vein was also ligated and two inches of it excised and removed.

The jugular vein was ligated beneath the clavicle, above at the bulb, and removed. The foramen was cut away, leaving only its base and a portion of its lateral walls.



In still further removing clotted material above the bulb, bleeding took place from the inferior petrosal sinus, and this was controlled by packing gauze into the sinus. During this dissection several large diseased glands were removed in the region of the vein, but there was no matting down of the tissues, as in the previous case.

The soft parts were irrigated with a normal salt solution, made very hot, and closed with a continuous silk suture. The mastoid was dressed in the usual way, and she was taken to the bed in very good condition. It had been necessary to stimulate her only once with strychnine, and that during the last few minutes of the operation.

While she was coming out from under ether, oxygen was given for a moment at a time at frequent intervals, and this seemed to be all the stimulation she required for the next twelve hours.

• The following morning her temperature was 102.2° F., pulse 180 and weak, and she complained a great deal of pain in the head. An ice cap was applied, and throughout the day she was given half an ounce of whiskey every three hours, with occasional inhalations of oxygen. During the day the temperature dropped to 100° F., the pulse still continuing rapid, ranging 130 to 170. The face was bluish in color, and this blue tinge remained present for several days.

For the succeeding four days she did nicely, when, on that day, she developed a slight chill, and the temperature rose to 102.8° F. The dressings were removed, and the mastoid and brain wound found doing well, but there was some edema over the middle portion of the neck wound in the region where several glands had been infected. The stitches were removed over this area, and quite a large quantity of pus was evacuated. After relieving the tissues of this pus accumulation, she made an uneventful recovery, the temperature quickly dropping to normal and remaining so throughout, the pulse, however, remaining rapid, and ranging from 110 to 140 per minute.

The brain cavity was dressed every four days, and with two exceptions was found free from pus. At each dressing it was irrigated with a hot salt solution and loosely packed, so as to allow a collapse of the abscess walls.

The wound in the neck healed nicely, and the patient was discharged from the ward service on June 14, 1899, twenty-one days after her admission.



*Case VII. Cerebellar Abscess and Pyemic Sigmoid Sinus Thrombosis, following Purulent Mastoiditis (Bezold), caused by an Acute Otitis Media. Operation. Death.*

K. O., a girl, aged twenty years, native of Germany, applied to the New York Eye and Ear Infirmary for treatment on February 15, 1899.

The history she gave was, that about four weeks before she had contracted a severe cold, and the next day there was a sound in the left ear as though someone were blowing in it. A few hours later pain began in the ear, and this was followed by a discharge from the canal some six days later. Before the discharge began she was able to obtain only a few hours sleep on account of the pain. When the discharge began the pain abated somewhat. On February 3d, twelve days before, the discharge stopped and since then the pain had been very pronounced.

Physical examination disclosed a meatus and canal free of discharge. There was considerable sagging of the posterior and superior canal walls. The drum membrane was bulging, especially the posterior superior portion. There was marked edema over the mastoid, and this edema extended downward into the neck. Posterior to the tip there was a boggy swelling, about the size of a small hen's egg, extending backward toward the occiput.

All this edematous area was very tender upon pressure, and the patient carried the head well over toward the opposite side. She had escaped all diseases of childhood except measles, which she had when she was ten years of age. Her temperature was 102.4°F., pulse 94, tongue heavily furred, with bad odor from breath.

She was advised to remain in the hospital and have an operation performed, which she refused to do. The drum membrane was opened, an incision made in the prolapsed wall, and she was given instructions to irrigate the canal every two hours with bichloride 1/4000; she then left the hospital for her home.

Five days later she again came to the hospital, with all of her former symptoms greatly intensified, saying she had not slept an hour during the five preceding days, and now consented to have an operation performed.

At this time the temperature was 103.2°F., pulse 90 and she looked septic.

An examination of the discharge from the left canal showed the presence of streptococci in abundance.

*Operation*—Ether was used, the usual mastoid incision made, and upon cutting through the periosteum a small quantity of pus escaped in the region of the tip. The cortex appeared to be intact and was dark in color.

Upon opening the antrum a small quantity of pus escaped. The whole interior of the mastoid was found diseased, the curette removing pus, granulations and necrotic bone. The sinus was exposed below the knee, and was observed to be markedly discolored, almost black in appearance.

On further removal of softened bone, the sinus was accidentally opened above the knee, and profuse hemorrhage took place from the torcular end, but none from below. The inferior portion of the sinus below the knee was opened, by slitting the dura, and a small clot of blood covered with fibrin was removed. After this removal, the return current seemed normal and the sinus was packed in the usual manner.

Continuing the removal of softened bone backward from the tip, a perforation was found leading into the bulging mass before spoken of in the occipital region. An incision, at almost a right angle to the mastoid incision, was made over this mass, and about an ounce of dark-looking pus evacuated.

The parts were flushed with sterilized water, and this followed by a flushing with absolute alcohol, the usual dressing applied and the patient returned to the ward.

For the next four days the patient did well, the temperature ranging from 99°F. to 100.4°F., pulse 94 to 100.

On the fifth day there was a gradual rise of temperature to 104.2°F., pulse 110. The patient's condition was one of comfort, and she seemed bright and did not complain.

The eyes were examined by the house surgeon, who reported some redness of the optic nerves, with slight blurring of the edges.

The day following the temperature dropped to 102°F., the patient still feeling comfortable and taking nourishment well.

Dr. Dench was asked to see the case in consultation, and advised against another operation, saying he thought it best to wait and watch developments.

The next day (the seventh from the time of operation), the temperature rose gradually again to 104°F., pulse 102, and I decided that there was sepsis going on and determined to search for it.

*Second Operation*—Ether was again given, the sinus opened at the point of former incision and no bleeding followed. A probe was passed backward, toward the torcular, and this was followed by

quite free hemorrhage. The probe was then passed below, and from the opening made by it a few drops of pus made their way to the surface. The curette was used here, and a considerable quantity of clotted, granular material, together with fibrin and pus, was removed, after which there was free bleeding. This was controlled by a gauze wick passed down to the bulb. The field was cleansed with alcohol and a dressing applied.

Before removing the patient from the table her condition became very weak, and twelve ounces of a hot saline solution were injected into the rectum, with marked benefit.

The pus from the sinus was examined, and found to contain large numbers of the streptococci.

The patient passed a comfortable night and seemed bright and cheerful in the morning.

The eyes were again examined, and the optic discs found markedly blurred, with veins enlarged and torturous.

The patient's condition continued comfortable, and she seemed to be improving.

Two days later the temperature rose slowly to 104°, pulse 90, she complained of considerable headache on the left side of the head, seemed a little dull, and at times said she felt cold and wanted more covering put over her. These symptoms continuing throughout the day, I decided to explore further for pus accumulation.

*Third Operation.* Ether was administered, the wound was exposed and the dura around and below the sinus was found to be more prominent than before. A further area of bone was removed below and posterior, exposing the cerebellum. An incision was made in the dura over it, and a large quantity of pus and broken down and softened brain substance removed. The abscess cavity extended behind and around the sinus, and there was a distinct walling off of its contents, as felt by the fingers. The cavity was irrigated with a saline solution, and packed loosely with sterile gauze.

On examining the bulb end of the sinus, a few drops of pus were again found, and for this reason and for the purpose of preventing any further septic absorption, I decided to ligate and resect the internal jugular vein. This was done, ligating it just above the clavicle, and resecting to the bulb, and it was found to contain a clot for a little over two inches below the point of ligation above.

A saline solution was given in the rectum, at the end of the operation and while the patient was on the table, and she rallied well, considering the gravity of the operation and what had been done previously.

During the night she was extremely restless, and it was impossible to keep her quiet. The following day she was still very restless, with mild delirium at times. Her temperature was  $104^{\circ}\text{F.}$ , pulse ranging between 80 and 86, and of a very good volume, but irregular at times; kidneys acting well.

The next day she seemed better. There was no delirium; she was quiet; asked for food and said she felt comfortable. Her temperature dropped to  $102.3^{\circ}\text{F.}$ , pulse 80 and of very good volume, and the tongue, which before had been very dry, was beginning to show moisture.

She continued improving all that day, until 5:30 o'clock in the afternoon; when she suddenly stopped breathing, and all efforts to re-establish respiration were of no avail.

Oxygen and all stimulation were at hand and used persistently, with no response whatever.

During all this time the pulse could be distinctly counted, and it was of fair volume. The pulsations kept growing weaker and weaker, and at the end of fifteen minutes from the time breathing ceased they stopped altogether.

We were unable to obtain an autopsy, so could not determine definitely the cause of death, but believe it to have been due to an embolus in the respiratory center. At the time of death the temperature registered over  $107^{\circ}\text{F.}$

#### SYMPTOMATOLOGY.

*Otorrhea*—The presence or history of a discharge from the auditory canal of the affected side.

*Chills*—They are present in a large proportion of cases, and of the symptoms to be depended upon in aiding us to make a positive diagnosis of sinus thrombosis, the presence or history of a chill, followed by a sudden rise in the temperature, with a remission, and profuse sweating is, if present, one of our most positive signs. Many of the cases come under our observation after the thrombosis has already formed, and in such cases we fail to observe this most important and initial symptom, and in this way are misled as to the true conditions existing. Or, when very little of the septic poison enters the system at a time, instead of a decided chill, the patient complains of a chilly sensation only. This, I believe, should put us on our guard, when a discharge from the ear has existed any length of time, quite as much as when the more decided chill is present, as it only marks a difference of degree in development.

There are cases of thrombosis, however, non-infective in character, giving us no history of a chill whatever.

*Temperature*—This depends on the amount of septic material entering the general circulation, which, if it be large, is immediately followed by a rise from normal to  $104^{\circ}$  F., or even higher, and is quickly followed by a remission to normal or below. If the amount entering the system be small, then the rise is gradual. There is no sudden remission, and the temperature may fluctuate for several days between  $99^{\circ}$  F. and  $101^{\circ}$  F., or thereabouts.

When there is a sudden elevation of the temperature, with the other symptoms usually present, a diagnosis is comparatively easy, but when, as often occurs, there is a gradual rise from normal to  $101^{\circ}$  or  $102^{\circ}$  F., and it remains more or less stationary, and there has been no chill, it becomes more difficult of diagnosis, and it is in these cases that the chilly feeling of the patient is one of our most valuable aids in arriving at a correct diagnosis.

In one of my cases reported the temperature did not rise higher than  $102.2^{\circ}$  F., remaining stationary at this point until after operation, and the only symptom that decided me in operating was this sensation of chilliness complained of by the patient.

A complication which may very materially lower the temperature in sinus thrombosis is the presence of a collection of pus in the brain, and should always be thought of in this connection, when a low temperature exists.

*Pulse*—In the cases of thrombosis, when there is a sudden and high elevation of temperature, there is a corresponding rapidity of the pulse rate, ranging between 110 and 160, and often more, per minute; but when the cases of a low temperature range occur, the pulse is often less than 100 per minute, and in one of the cases here reported, complicated with an abscess of the cerebellum, it never became more rapid than 85 per minute. In my two cases of jugular resection, the pulse rate was rapid for several weeks after the operation, even though the temperature was normal.

*Pain*—In most cases of thrombosis coming under our notice the degree of pain is greater than that present when only an ordinary mastoiditis exists, and in my own cases this was very noticeable, especially the pain referring to the side of the head and in the occipital region over the torcular. When the internal jugular vein is involved, and the pain extends along its course, I think it is due quite as much to the infected lymphatic chain of glands—if not more—than to the obstruction existing in the vein, for in two cases seen recently, where the vein was involved, there was practically no lymphatic involvement, either visual or by palpation, and these cases exhibited little or no pain along the course of the vein, when pressure was made over it.

*Nausea and Vomiting*—These symptoms are nearly always present to a greater or less degree during the course of a sinus thrombosis, and were present in all the cases here reported, beginning with a slight nausea, and increasing as the disease developed, until vomiting took place.

*Respiration*—During the early stages of thrombosis the respirations are but little affected, but in the later stages they are more rapid, and in two of the cases here reported reached higher than 60 per minute.

*Vertigo*—Usually present when the meninges are involved, it was not observed in any of my cases.

*Consciousness*—This was diminished to a marked degree in all my cases operated upon, except one, the third, and with this exception all the cases I have seen exhibited at some time or other during the course of the disease, this lack of normal cerebration. A good example of this would be the slow and hesitating manner with which the patient would attempt to reply to a question, showing that this function was distinctly interfered with. The meningeal type of this disease we are, unfortunately too familiar with for an enumeration of the symptoms here.

*Intra Ocular*—A neuro-retinitis is present in a certain number of cases. Of the seven cases here reported, six were examined, and such changes found in only two of the cases. Motor disturbance sometimes present was absent in all the cases here reported. Puffiness of the eyelids on the affected side was present in two cases, probably caused by extension of the clot to the cavernous sinus on that side, and an interference also with the ophthalmic return circulation.

*Constipation*—In all the cases coming under my observation this symptom was present, and is one that I believe co-exists with the earlier stages of this disease. In the later stages of the disease of the abdominal type, or when there is an advanced general sepsis, then diarrhoea is present. Septic enteritis, with a metastatic deposit of the intestines, was present in my fourth case, and for several days prior to the evacuation of the deposit presented very much the clinical picture of typhoid fever.

Of the local symptoms, the presence of edema of the mastoid region, and edema over and around the exit of the mastoid and occipital veins, the so-called Griesinger's symptom was present in five of the seven cases operated upon, and this system was present in the other cases of septic thrombosis of the sigmoid sinus seen recently.



A symptom described by "Gerhardt," and called after him, is said to demonstrate that when pressure is exerted over both the external jugular veins, that it will show a marked increase in the quantity of blood passing through the vein of the unaffected side. Whiting also cites a case confirmatory of this. In four cases I tried to demonstrate this to my satisfaction, but was unable to notice any increase in the flow through the opposite vein.

In all of my cases there was a marked stiffness, and in two instances rigidity of the muscles of the neck on the affected side, and in all the cases I have observed this condition was present to a greater or less degree, so that I believe this symptom to be a more or less constant one.

I have never been able to demonstrate a hard cord like swelling in the neck along the course of the internal jugular vein, though I have tried repeatedly before operation to do so, and in one of my cases, the sixth, the vein was enormously distended and contained a firm clot, so that it would seem that here was a favorable case to demonstrate this symptom, but I could get no positive evidence of such a condition by palpation.

In two of my jugular cases, the lymphatic glandular involvement, both superficial and deep, was very marked and was a valuable aid in diagnosis, though their involvement does not always indicate phlebitis of the veins, as in a Bezold perforation the lymphatic infection in this region may be a prominent feature, so their presence in this situation is by no means always secondary to jugular involvement.

Among some of the general symptoms at the outset of the disease may be mentioned malaise, loss of appetite, a heavily furred tongue, and a foul breath. The face wears an anxious and pallid look, the skin is dry and later presents a yellowish tinge, indicative of sepsis. Nearly all these symptoms enumerated were present in the cases reported in this paper.

It is said that sinus phlebitis is a disease of adult life, but in the second case of this series we have it existing in a child three years of age. So, I think it may be said that this disease will occur, when favorable conditions for its development be present, whether in adult or child.

*Treatment*—The method of treatment in this disease cannot, I believe, be summed up by saying we should always pursue the same course with all our cases, but that we should treat each individual case as seems best to us at the time we are dealing with it.



A complete and thorough exposure of the sinus before opening it is desirable in all cases. The field of operation should then be flushed with peroxide of hydrogen (and I have never seen any ill effects from its use in full strength). This should be followed by a second flushing, with absolute alcohol. A freshly sterilized aspirating needle (recently tested) should then be thrust through the dura, covering the sinus. The part usually explored first is that lying above the bend or knee, and the other portions of the sinus can be explored in a like manner. The needle should be introduced, not directly downward, but for some distance (one to two inches), along the lumen of the vessel. If a negative result be obtained, and one is still in doubt on account of the physical appearance of the sinus, it is better to make a small opening in the dura, covering the sinus with a scalpel, than to limit the procedure to simply an unsatisfactory aspiration.

If a clot is found, then the dura covering the sinus should be opened freely, and the clot removed with the curette, together with any disintegrated material that may be present. When the clot is removed and the blood flow established from the proximal end, it should be allowed to flow for a few seconds, so as to remove any further clot or septic material that may be present in the vessel farther back. The flow of blood is then easily controlled, by packing a small piece of folded gauze directly against the lumen of the vessel. The lower portion of the sinus can be proceeded with in the same manner, and after removal of the clot an attempt made to restore the circulation at the bulb. In a fair number of uncomplicated cases this can be done quite easily, but in others it becomes impossible without dangerous manipulation, and in these cases where the sinus has been free from a septic clot, or the presence of pus, and the region of the neck shows no jugular involvement, I think it better to cleanse the operative field, and pack the sinus firmly at the bulb with gauze, rather than proceed any further.

If, on the other hand, upon opening the sinus, we find a disintegrated clot or pus, or both present, then I believe, without further manipulation above, we should, as rapidly as is consistent with carefulness, expose, ligate at the clavicle, and resect and remove the internal jugular vein of that side, to its commencement at the bulb.

If the facial, maxillary, thyroids, or other veins be involved, they should be ligated beyond their point of involvement and resected also. All enlarged glands, during the course of the dissection,

should be also removed, so not to leave any possible field for infection subsequently. Care should be taken to completely separate the pneumogastric nerve from the vein at the lower point of ligation, before cutting the vein, as here the vein and nerve lie very close to each other. The soft tissues of the neck should then be flushed with a hot saline solution, and closed by sutures to within an inch of the bulb. After this it becomes an easy matter to remove the pus and disintegrated material left in the sinus. If any sloughing edges of the dura over the sinus be present, they should be removed, as otherwise they retard the healing process. In a septic case, after operation, when the case does not progress as favorably as we think it should, it think it best to wait for a time before any other procedure is instituted; for we must remember the fact that here was a septic case, developing for several days, with a gradual absorption into the system of a poisonous element, and it would be strange indeed did the recovery not show some evidences of a past and present sepsis, while this septic material is being eliminated from the system.

In all cases of aural disease, where a discharge from the ear is present, and particularly in our operative cases, I believe we should always have these discharges examined microscopically, and if so, I believe we shall find the streptococcus to play a most important part in the development of our septic cases, as in every instance where I have had this examination carried out I have found a far greater amount of destruction, both in the soft and osseous tissues, when this particular form of infection predominated.

It is admitted by some writers that when there is marked evidence from the physical signs of the jugular being involved that we should proceed to ligate and resect it before operating upon the sinus above.

I think this good advice, provided we are sure of what we are going to find, but in the majority of cases I do not think a positive diagnosis can be made, as to the condition of the vein, before operation.

The time to operate on a case of sinus thrombosis is as soon as the diagnosis is made, and if in doubt it is better to make an exploratory operation early rather than wait for an array of symptoms that no one familiar with the disease can fail to recognize.

During a prolonged operation for this disease, I know of no method of stimulation that will compare in its beneficial effect with a hot saline enema, given in the rectum, provided the patient becomes weak, and this can be repeated if necessary. If the patient

does not respond quickly, after being put to bed, and it becomes necessary to stimulate by others means, then a direct transfusion of a normal salt solution can be done.

One of the most valuable aids in the immediate recovery of my cases, after operation, was the administration to them of oxygen, while they were coming out from under the anesthetic, and the giving of it to them at stated intervals for a period of four or five days following the operation.

This, with general supporting treatment, constituted the care of the patients.

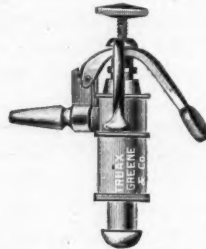
62 West Fifty-second Street.

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#### A CONTROLLING, ADJUSTABLE CUT-OFF FOR COMPRESSED AIR.

BY S. S. BISHOP, M.D., CHICAGO.

The accompanying illustration shows a cut-off provided with a set screw which acts upon the thumb lever of the air valve. After connecting the treatment tube with a vaporizer, such as the Globe nebulizer for example, and admitting the air to the tube, a downward turn



Bishop's Cut-Off.

of the set screw will open the air valve of the cut-off to admit as little, or as much, air pressure to the nebulizer as one may require. It may be made to vary from the gentlest pressure up to the full amount conveyed by the connecting rubber tube.

This set screw keeps the air valve open automatically and continuously at the point at which it is set, if the cut-off is properly constructed, with the result of administering a continuous inhalation to one patient while the physician is free to engage in treating others. Much valuable time is saved in this way, since more than one patient can be undergoing treatment at the same time.

The controlling attachment in no way interferes with the employment of the same cut-off for any other purpose, for instance with the Eustachian catheter. It is not intended to supplant the compressed-air meter invented by the writer a number of years ago, for, although it regulates the pressure to a nicety, one cannot determine the exact number of pounds he is using without the meter.

When it is desired to employ this cut-off with ordinary atomizers, dilators, etc., the set screw is turned up so as not to press on the thumb lever, and it is then used like any other cut-off.

I have made another improvement that is a useful feature of this controlling cut-off, although it is not apparent in the cut. It consists of a detachable section that remains permanently attached to the rubber treatment tube whenever the main part of the cut-off is unscrewed and removed from the tube. This allows of detaching the instrument from the rubber tube for repairs, and screwing another duplicate cut-off in its place in a moment, saving the loss of time and annoyance incident to refastening the rubber tube itself and wiring it on again. Of the several inventions devised by the writer for the purposes described, this is the simplest and most effective. It was made by Truax, Greene & Co., of Chicago.

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## SOCIETY PROCEEDINGS.

### THE LARYNGOLOGICAL SOCIETY OF LONDON.

*Fifty-Sixth Ordinary Meeting, March 3, 1900.*

F. DE HAVILLAND HALL, M.D., President, in the Chair.

The following cases and specimens were shown:

#### **Case of Sinuses in the Vault of the Naso-Pharynx.**

Shown by Mr. Charles Heath. The patient, an unmarried woman *æt.* thirty-one, had suffered for some years with discomfort in the nose, throat and mouth, with dyspepsia and frequent dyspeptic ulcers on tongue and gums. The nose showed considerable atrophy of the mucous membrane of the middle and inferior turbinals anteriorly and posteriorly; the pharynx being also much atrophied, the cavity large and post-rhinoscopy easy. The Eustachian eminences were seen to be enormous, filling the fossæ of Rosenmüller and reaching nearly to the pharyngeal roof. Just behind the upper edges of the choanæ, on each side, there appeared a transverse elliptical opening, which was about half an inch long and one-fifth inch across at the widest part on the left side, and slightly less in each dimension on the right; a probe extends apparently about a quarter of an inch. The openings could be easily felt, and the finger inserted a little into the larger one; but the floor of the cavity could not be felt, as the edges of the opening would yield but little.

Dr. William Hill had seen a similar condition several times, although not so marked as in this case. These were not "sinuses" in the ordinary rhinological acceptation of the term, but merely the two fossæ of Rosenmüller rendered much deeper than normal by the development of steep banks of adenoid tissue. These banks were formed internally by the hypertrophied lateral borders of Luschka's tonsil, and the transverse bands so prominently seen were the remains of the transverse alar laminae of the same tonsil passing across to a large Eustachian cushion.

Mr. Baber had arrived at the same conclusion as Dr. Hill, that the depressions were the upper part of Rosenmüller's fossæ unusually well marked. On examination with the finger, he had not been able to feel any bony growth or sinus.

Dr. Dundas Grant thought these sinuses were formed by the remains of adenoid tissue which had acquired adhesions.

Sir Felix Semon did not share the opinions of the previous speakers. In the first place, he did not think there was any adenoid tissue present at all in the neighborhood of the clefts. Secondly, these fissures traversed a direction parallel to the fossa, instead of longitudinally or vertically, and were infinitely deeper than those he had seen in the most developed cases of fissures in the adenoid tissue. To him it seemed as if there were two deep indentations into the bone itself. He put forward as a hypothesis, that there might be some form of arrested development.

Mr. Spencer did not see with the light available the amount of adenoid tissue that would be necessary to explain Dr. Hill's theory. He should suggest that there were sinuses growing into the bone, and possibly some excessive development of the sphenoidal sinus. He asked Mr. Heath to have a very careful drawing made of the naso-pharynx, as it was an unusual condition, and he suggested that when made the illustration should appear in the "Proceedings." Except that these "sinuses" were bilateral, they might be connected with the development of the infundibulum of the pituitary body.

Dr. Scanes Spicer said the boundary walls of the unusual cavities in the naso-pharynx were quite soft on digital examination. He thought the normal central adenoid tissue of Luschka's tonsil was displaced laterally in this case. This was especially well seen on the left side, where the adenoid tissue of the posterior wall was united to that forming the Eustachian cushion by a fleshy bridge. He could not concur with Mr. Spencer's view as to the depressions being the openings of the sphenoidal sinuses, for the latter were half an inch further forward, more in the nose, and closer to the septum.

Dr. StClair Thomson shared Dr. Hill's view, *i. e.*, that there were no sinuses except by optical illusion. There was quite distinctly an Eustachian tonsil on the top of the cushion, not merely a thickening, and this came into contact with the roof of the cavum, forming a deep recess which gave the impression of a sulcus. He thought that a careful examination under chloroform would reveal no adhesions. Such conditions as these were not at all rare, but fairly common; he had paid a great deal of attention to them, with the object of seeing whether there would be any improvement in ear cases by breaking down the cushions and adhesions, if existing, even when there were no adenoid growths.

Mr. Richard Lake said, as far as the description of the case was given, his opinion coincided with that of Dr. Dundas Grant. These "sinuses" were more outside than usual, but were caused by the pharyngeal tonsil.

Mr. Heath was much gratified by the amount of interest taken in his case. His opinion had always been, and was still, in harmony with that of Sir Felix Semon, that there was some unusual development in this case. Some of the members seemed to have rather mistaken the locality of the sinuses on account of the enormous size of the Eustachian prominences and their upward projection, and thought them further downwards and backwards than they really were; as a matter of fact, they were close under the back part of the roof of the choanæ. The locality was one in which adenoid tissue is rarely abundant, although it often runs towards the septum; the sinus was so close to the choanæ that it could not be of adenoid origin, and in this case there was advanced atrophy of the mucous membrane and no sign of adenoid tissue.

**Case of a Female æt. Twenty-Three, with Obstruction of One Nostril from Antral Affection of Uncertain Character.**

Shown by Dr. StClair Thomson. The patient said that she had not had any nasal obstruction until after acute faceache, some four months ago. For this she had had a number of teeth removed with considerable relief, and she only came to the hospital for the nasal obstruction. The left nostril was entirely occluded with what appeared to be a normal hypertrophy of the inferior turbinal. It did not in the least diminish under cocaine. The left posterior choana was normal. There was no discharge. Transillumination showed the antra to be the same on both sides. The left antrum was drilled from the alveolar border, but no pus escaped, and no fluid could be syringed through into the nose. With the probe the inside of the cavity appeared to have a soft thickened lining. There was still some tenderness above the canine fossa, and he suspected that the trouble might prove to be entirely periostitis.

Mr. de Santi said it was impossible to say very much about the diagnosis until the turbinal had been treated; he thought there was suppuration, and that the antrum was probably involved.

Dr. Dundas Grant said it looked more as if there were a cyst in the antrum. There was a certain amount of distension; no pus or fluid had been washed out on puncturing. A cyst seemed the only growth that would distend the antrum, and at the same time give no dullness on transillumination.



Mr. Spencer thought there was hyperostosis of the maxillary bone; similar cases had been shown to the society. He should relieve the nasal obstruction by removing the inferior turbinate body. He had seen more marked cases, which were due to thickening of a large area of the side of the nose, and in which there was marked symmetrical opacity upon transillumination.

Dr. StClair Thomson said it was his intention to remove the anterior end of the inferior turbinal body; and he had simply exhibited the case in order that members might see its present condition.

**Case of a Growth in the Larynx in a Male æt. Twenty-Five.**

Shown by Dr. FitzGerald Powell. In October, 1899, the patient first noticed a slight hoarseness, which gradually increased until January 16, 1900, when he came under my notice.

He attributes his loss of voice to the excessive use of alcohol, and also to the strain of public speaking.

Nine years ago he had pneumonia, and since then says he has been subject to colds which fly to his chest. On one occasion he strained his voice so much by speaking that he brought up some sputum streaked with blood. There is no history of syphilis. There is no evidence of disease in his lungs, and he is increasing in weight.

On examination the whole of the larynx, especially the ventricular bands and true vocal cords, are seen to be red and swollen, and there is some paresis in adduction.

At the anterior portion of the right cord a growth is observed apparently growing by a broad base from the substance of the cord, and partly free anteriorly and posteriorly. The inflammatory condition has recently improved, but the growth has increased somewhat in size.

Sir Felix Semon stated that he did not think it was possible to say at present for certain what the growth was from mere laryngoscopic examination. It much reminded him of one of his own cases, in which he was for a long time doubtful as to the nature of the disease. In that case at first a small reddish growth was observed on the free margin and under the middle of the left vocal cord. It passed very gradually over into the cord itself. In the course of the next twelve months it gradually spread, infiltrated the left cord more and more, and finally an almost uniform and semi-transparent thickening of the whole vocal cord occurred, and the movements became somewhat sluggish. Owing to the uni-

formity of the swelling, it was impossible to remove a piece for microscopic examination. Seeing the patient's age (fifty-five), the unusual appearance of the growth, and the sluggish movements of the cord, there was a strong suspicion of malignancy, and this opinion having been confirmed by Mr. Butlin, thyrotomy was performed, and the whole of the cord was removed. On microscopic examination, however, by Mr. Shattock, it remained doubtful as to whether the growth was of the nature of fibro-sarcoma, or of what he called "continuous" fibroma (*Fibroma molluscum*). The case had been fully described in the speaker's paper on "Malignant Disease of the Larynx," in the *Lancet*, 1894. It was Case 12 of his tables, and a full report of Mr. Shattock's microscopic examination was given in it. The gradual blending of the growth with the cord in Dr. Powell's case and its semi-transparent appearance much reminded him of that case. Of course the comparative youth of the patient seemed to militate against the idea of malignancy, but as he had himself seen undoubted malignant disease of the larynx in a patient æt. twenty-seven, the present patient's youth was no absolute proof to the contrary. If the case were his own, he certainly should at once remove by intra-laryngeal operation a good-sized piece of the growth near the anterior commissure, where it most projected, and should make his further proceedings depend upon the result of microscopic examination of the fragment removed.

**Pseudo-Membranous Adhesion in the Anterior Commissure and Symmetrical Thickening Below the Anterior Part of the Vocal Cords (Congenital?) in a Young Man.**

Shown by Sir Felix Semon. The case is shown as representing the lowest degree of a tendency to formation of congenital webs between and below the vocal cords. The patient is a young gentleman æt. twenty-seven, who since birth had suffered from extreme weakness of voice, and who was sent to the observer by Dr. Clayton, of Hampstead, on the 13th January, 1900, on account of a red, granular, elongated, mobile growth, inserted on the free edge and on the lower surface of the left vocal cord, about the border of the anterior and the middle third. This growth practically covered the anterior part of the glottis. It was removed with forceps, and turned out to be a soft fibroma. After its removal, however, the voice remained weak, and it was then seen that the vocal cords were united somewhat extensively at the anterior commissure by an intermediate, reddish, granulating mass, whilst from the anterior

commissure two symmetrical thickenings extended almost the entire length of the vocal cords and below them, simulating, as it were, a reduplication of the vocal cords themselves. After removal of a small part of the reddish mass in the anterior commissure, which was found to be much softer than in previous cases seen by the observer of congenital adhesions in the anterior commissure and between the vocal cords, the voice became perfectly normal.

The President said he understood the condition was more pronounced prior to commencing treatment.

Sir Felix Semon stated in reply to this question that the mass previous to operation was not much bigger than at the present time. The single pieces removed were so small that it was hardly worth submitting them to microscopic examination. He wished to add to his description of the case that, according to the explanation given by Roth, at the commencement of fetal development the two halves of the larynx were glued together by epithelial masses, which gradually cleared up from behind. In normal cases the whole epithelial mass disappeared, whilst in cases of arrested development an adhesion remained, more or less developed, in the anterior part of the glottis, and thickest in the neighborhood of, and below, the anterior commissure. His patient had incidentally mentioned to him that his father also had always had an extremely weak voice, and being mindful of Professor Seifert's series of cases, in which the developmental arrest in question had been observed in four members of one and the same family, he had obtained permission to examine his patient's father, but there was no evidence whatever of a similar arrested development.

**Case of Growth from the Arytenoid Region in a Male æt. Fifty-Six.**

Shown by Mr. R. Lake. The patient when he first came under my care six months ago complained chiefly of dysphagia and otalgia with excessive secretion of ropy mucus. There was, and there has been, no loss of voice, nor at any time any other symptom pointing to the larynx as being the seat of the disease. The patient gave a somewhat unintelligible history of the pain coming on suddenly after a meal.

The ear had been considered the seat of the trouble, and he had been using sedative drops for some six months.

The objective symptoms were as follows: The pharynx was red and swollen and had the appearance of a gouty pharyngitis. The ear was devoid of any active lesion. The larynx was difficult to examine, but a whitish translucent growth was noticed under the tip of the left arytenoid cartilage on its anterior surface.

The patient was put under treatment to reduce the irritability of the pharynx; this was accomplished and the removal of the growth suggested. At this the patient demurred and disappeared for some time; he, however, returned, and I removed the growth, or rather the major part of it, with the forceps (shown at a previous meeting of this society). There is still a small piece left on the outer side, which will also be removed. The subjective symptoms have almost disappeared.

The section under the microscope is one which I think will interest the members of this society. The mucous membrane over the growth is much thinned, but does not seem to have any connection with it, and there is an absence of signs of activity in the surrounding tissues except just below the epithelium. The growth consists of large epithelioid cells, and the vessels run chiefly in the trabeculae.

**Case of Pharyngeal Growth Involving the Larynx in a Man æt. Fifty-Nine.**

Shown by Dr. Furniss Potter. T. R., æt. fifty-nine, came to the London Throat Hospital three weeks ago, complaining of difficulty in swallowing, which he had first noticed six months ago. He stated that three years previously he had had part of the lower jaw removed at the Radcliffe Infirmary, Oxford. On examination the left ascending ramus of the lower jaw had obviously been removed. There was a hard sloughy swelling in the left faucial and tonsillar region, including the left half of the palate, which extended down the side of the pharynx, involving and almost completely obscuring the larynx. There was a hard swelling immediately below and in front of the mastoid process, and also what felt like a gland just above the great cornu of the hyoid on the left side. The patient had always been a healthy man, but had lost flesh lately; no history of syphilis.

He had been taking potassium iodide for three weeks, and asserted that he could swallow more easily and "had more room in his throat." The glandular enlargement had subsided to a certain extent.

Although Dr. Potter had little doubt in his own mind as to the diagnosis—malignant disease,—he had ventured to show the case, thinking it would be of interest, though perhaps more from a general surgical than a purely laryngological point of view.

The President said, with regard to the treatment of such cases, he remembered a doubtful one, which was treated with fifteen-grain doses of iodide of potassium without any benefit; on increasing the dose to twenty grains the improvement was most marked.

Dr. Furniss Potter, in reply to the President, said that the iodide had been given in ten-grain doses, increased to fifteen during the last week; a larger dose had not yet been given. In reference to the present condition, the patient had more room in his throat, and the glandular enlargement had subsided to a certain extent.

**Case of Advanced Atrophic Rhinitis in a Young Girl.**

Shown by Mr. L. A. Lawrence. E. P., a girl at. fourteen, was shown for the purpose of adding one more to the number of young people having advanced atrophic rhinitis. In this case the patient to her knowledge had suffered for three years.

The usual crusts were present along the whole of the upper respiratory tract. In addition, the uvula was markedly bi-lobed.

Dr. StClair Thomson mentioned that, at the last meeting of the Society, Mr. Spencer had said that the bacteriology of the subject had not been sufficiently investigated. Curiously enough, that very afternoon Dr. Thomson had been reading a long and interesting paper on the subject, narrating the experiments of an Italian investigator on thirty-two cases.\* As a full translation might not appear, he thought a brief epitome might be interesting. A Dr. de Simoni had found that in the secretion of ozena pathogenic germs were constantly met with—the diplococcus of Fränkel, streptococci, and pyogenic staphylococci. Non-pathogenic germs, such as the capsule bacillus and the pseudo-diphtheria bacillus, were also met with. None of these have any etiological importance. They may be met with in nasal cavities with no trace of ozena. Pure cultures were made and introduced into the nostrils of healthy individuals without reproducing the morbid process. Even when inoculated on to the mucous membranes of healthy individuals in association, as they are met with in the ozenatous mucosa, they are incapable of producing the disease. The same can be said of non-pathogenic germs, to which the origin of ozena had been wrongly attributed. Dr. Thomson added that De Simoni's experiments appear to have been carried out very carefully, and therefore tended to exclude the idea of the infective character of ozena.

\* *Il Policlinico*, 1899, vol. vi.

(*To be continued.*)

MEETING OF THE CHICAGO LARYNGOLOGICAL AND  
CLIMATOLOGICAL SOCIETY.

*Held April 19, 1900.*

REPORTED BY EDWIN PYNCHON, M.D.

The President, Dr. E. Fletcher Ingals, in the Chair.

**Bilateral Osteoma of the Nose**, a case reported by Dr. Otto J. Stein, with presentation of patient, such cases being comparatively rare. (His paper will appear in full in a later issue of *THE LARYNGOSCOPE*).

Dr. A. M. Corwin stated that he had treated a very similar case over a year ago, which he had not previously reported. By operation he had removed the growth, there being but little hemorrhage, though its return followed within a few weeks, after which the patient drifted from sight.

Dr. E. F. Ingals said that he had operated in two cases, one being unilateral, while the other had begun to extend to the opposite nostril. In both cases the hemorrhage was free.

Dr. Stein in closing the discussion thought that the rhinological method of operating through the nose was not advisable, and that the external method of the general surgeon was the only method to be advised.

Dr. J. Holinger read a paper entitled:

**Ozena, Dry Pharyngitis and Pachydermia of the Larynx in the Light of Recent Researches as to their Etiology**, in which, in addition to his own observations, he gave the opinion of several European authorities. Ozena is not met with as frequently in Chicago as in many other locations. It is often observed in Austria, and from a standpoint of nationality it is very common with the Chinese. Breadth of face is a physical condition which seems to favor the development of ozena. In the examination of a large number of cases only two and five-tenths per cent could be classed as among those with narrow faces. Considerable attention was given to the importance of bacteriological examinations. As the atrophic condition progresses the epithelium of the mucous membrane "hornifies" like epidermus.



Dr. Pyncheon: While the essayist evidently regards ozena as being a disease, in my opinion and experience it is only a symptom or complication which indicates a lack of proper attention and cleanliness. In the treatment of atrophic rhinitis in the adult, when there is neither a specific nor malignant history, and when not complicated by sinus disease, I have met with no difficulty in soon correcting an ozena, if present, and in so educating the patient in self-care that all tendency to ozenatous formations will be easily held in check. The method I employ consists in the hourly use of a modified Dobell solution\*, one drachm being sniffed in the nose from the palm of the hand, and, additionally, the use of a tepid douche night and morning, being a weak alkaline or carbolyzed solution. In this way I have in a short time had the ozena well in check so the indicated after-treatment could be carried out.

Ozena, to my mind, is easily explainable on a common-sense basis, and does not require reference to bacteriology or microscopy. The nasal secretion, which is normally watery in character so as to be evaporated and thus humidify the inspired air, has in the atrophied nostril become changed in character and is too dense to be evaporated, hence, being an animal secretion, as is milk, it will, when exposed to the air, in time likewise decompose, and thus arises the requirement for great care in cleanliness. Pharyngitis sicca quite naturally follows atrophic rhinitis and later on the larynx may suffer. I might add that in these cases, while the nasal passage is too large near the floor, I generally find a condition of stoppage higher up which is due to middle turbinal hypertrophy and pressure thereof against the septum so as to occlude the attic of the nostril. In such cases I have invariably found that a correction of the hypertrophic condition by surgical means, in order to allow the inspired air to penetrate to the attic of the nostril, results in an improvement of the atrophy and a diminution in the annoyance therefrom. In connection with this line of treatment I find that stimulation of the atrophied inferior turbinal by vibratory massage also greatly assists in improving the condition.

Dr. George E. Shambaugh reported a case of

**Primary Nasal Diphtheria** in a girl twelve years of age which ran an uneventful course without febrile manifestation through four weeks' time. An early microscopic examination was made, though but few bacilli were found. At a later examination they were more

\* *Annals of Ophthalm. and Otol.*, October, 1896.

numerous. In this disease after complete shedding of the membrane the bacilli may remain active for some time, and when of the virulent variety may thus cause infection. All cases of fibrinous rhinitis have by some writers been considered as being of diphtheritic origin. Emphasis was given to the necessity of making an early microscopic examination in all doubtful cases.

Dr. Ohls cited Price-Brown's experience in having had an extensive formation of fibrinous membrane after the cauterization of a turbinal.

Dr. Stein: In pseudo-membranous rhinitis the Klebs bacillus is often absent upon the first examination, though staphylococci and streptococci may be present, but, at a later examination, the true diphtheritic bacilli will be found.

Dr. Ingals expressed doubt as to the propriety of the diagnosis when so large a per cent of the usual symptoms are absent. He called attention to the frequency with which diphtheria is carried by domestic animals.

Dr. J. H. Coulter read a paper entitled:

**The Etiology of the Deflected Nasal Septum.** While not formerly appreciated it is now recognized that a deformed septum is of great pathologic importance. More or less defect of the septum is found in at least seventy-five per cent of the cases presenting themselves for treatment. A deflection or other deformity of the septum may exist for many years without causing disturbance until some new exciting cause appears. While traumatism is the most commonly recognized cause, it is certainly strange that the deflection is often not recognized until several years after the injury. It would seem more reasonable to assume that the deflection is caused by suction in the occluded nostril in combination with increased air pressure upon the opposite side.

Dr. Freer regards deflection as being often due to some unrecognized source of irritation which causes the cartilaginous septum to grow too rapidly.

Dr. Pyncheon: I quite agree with Dr. Stein as to the etiology of the deflected septum. I think tonsillar or adenoid enlargement in early life has very much to do with a case of deflected septum coming on about the age of puberty. I think that prophylaxis against deflection of the septum would be secured by promptly removing all obstructions so that nasal respiration is free. As regards the high-arched palate being a factor, I will say that Dr. E. S. Talbot, of Chicago, who has made many studies of this condition,

claims that there is no such thing as a high-arched palate, but that the upper teeth, because of the mouth-breathing, do not meet with the resistance of the teeth of the lower jaw and consequently they grow downward more than they otherwise would, thus causing the appearance of a high-arched palate, although the roof is really at the normal height.

Dr. Ingals presented notes of a case of a

**Foreign Body in the Esophagus** in a boy two years of age, as he believed the rhinologist should know more of general medicine. The boy was said to have swallowed a cent, though he had been able to drink and also at times to eat food. By use of the X-ray the cent was easily located and under anesthesia was removed with an esophageal forceps.

Dr. Ohls asked why it would not be practical to operate by the use of the X-ray in such a case?

Dr. Pyncheon suggested, if this were attempted, that for obvious reasons it would be best for an assistant to watch and direct the operator by word of mouth.

Dr. Shambaugh stated that one case had been reported wherein this exact method had been followed.

It being the annual meeting the following officers were elected for the ensuing year:

Dr. T. Melville Hardie, President, and Dr. John E. Rhodes, Secretary and Treasurer.

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## ABSTRACTS AND BIBLIOGRAPHY.

Arranged and Edited by

FAYETTE C. EWING, M.D., St. Louis,

with the collaboration of the

EDITORIAL STAFF.

It is our purpose to furnish in this Department a complete and reliable review of the world's current literature of Rhinology, Laryngology and Otology.

Authors noting an omission of their papers will confer a favor by informing the Editor.

### I. NOSE.

**Spontaneous Escape of Cerebral Fluid from the Nose**—LUDWIG HEKTOEN—*Indiana Med. Journ.*, February, 1900.

Several years ago Fenger removed with a snare from the nose what appeared to be a polypoid growth, but which on microscopical examination proved to be a portion of a meningocele. Cerebro-spinal fluid followed the removal and continued to drip from the nose. The surgeon carefully plugged the nose with sterile material, made a trap-door in the face and sutured the edges of the dura. The patient made a prompt and permanent recovery.

Recently StClair Thomson has established the entity of an affection characterized by the continuous and spontaneous escape of cerebro-spinal fluid from the nose. Literature records twelve such cases, most of which were described as "dropping of watery fluid from the nose." The diagnosis of cerebro-spinal rhinorrhea is made by finding the constant and long-continued escape of a clear, watery fluid, which is free from taste, smell, sediment, albumen or mucin, except in slightest traces, and which reduces Fehling's. The route of escape is probably along the perineural sheaths of the olfactory nerves. Intra-cranial pressure may be a causative factor. It is of greatest importance that this condition be promptly recognized to prevent infection of the meninges through the nose. Medical or surgical treatment of this condition offers but little.

DETWILER.

**Researches on Ozena**—DE SIMONI—*Policlinico*, Vol. VI<sup>o</sup>, A. 6, 1899.

This study concerns the germs found in the secretion of ozena, with reference to their being constant or inconstant, more or less pathogenic, and the importance which should be attributed to them in the explanation of the clinical appearances. The cases amount to thirty-two.

By means of cultures made in the usual method, injections into animals and inoculations attempted on man in numerous experiments, the author arrived at the following conclusions:

1. In the secretion of ozena pathogenic germs are constantly met with, such as may even be encountered in normal nasal mucus. These germs are the diplococcus of Fraenkel, the streptococci and pyogenic staphylococci.

2. The non-pathogenic germs that are constantly met with in the secretion of ozena and which also may be met with in normal mucus are the capsule bacillus and the pseudo-diphtheria bacillus.

3. The pathogenic germs that are constantly met with in ozena have no etiological importance, because when inoculated in culture into the nasal mucosa of healthy individuals they are not capable of reproducing ozena. The same can be said of non-pathogenic germs to which the origin of ozena has been wrongly attributed.

4. Just as the pure cultures of the various micro-organisms which are found in ozena, pathogenic and non-pathogenic, have been demonstrated to be incapable of reproducing the morbid process when inoculated into the mucous membranes of healthy individuals, so they are not capable of reproducing this morbid process even if inoculated in association as they are met with in the ozenatous mucosa.

5. Having thus excluded the infective character of ozena, we must admit that this process originates from an anatomic lesion of the nasal mucosa, which permits the multiplication of those pathogenic and non-pathogenic germs which may even be found in normal nasal mucus and which in ozena concur in damaging the functional activity of the epithelium.

FERRERI. (Translated by StClair Thomson.)

## II. MOUTH AND NASO-PHARYNX.

### On Tuberculosis of the Tongue—TANTURRI—*Archivii Italiani di Laringologia*, Gennaio, 1900.

Tuberculosis of the tongue is a rare disease. In the clinique of Professor Massei in ten years amongst 1074 patients only two cases have been observed. It may be primary or secondary. The former is extremely rare and is more susceptible of cure; the latter may follow previous infection in the larynx, nasal fossae, etc. The ulceration may be superficial or deep; differential diagnosis between tuberculosis and epithelioma is difficult. The only available aid is that which is obtained from the histological examination of a piece removed. The most salient clinical character of epithelioma is its localization to the margin of the tongue, while tuberculosis and syphilis show a preference for the center and base. Besides, epithelioma is found on a more deeply indurated base, while induration in tuberculosis is always more superficial. The author gives two clinical histories, and with reference to treatment suggests applications of menthol (from twenty to eighty per cent), iodoform in ether (one in three), and methyl violet (one-half per cent). Lactic acid and insufflations of orthoform are especially required when the lesion is diffused and ulcerated. In addition to general medical treatment there should be a surgical one with cauteries and curettes.

FERRERI. (Translated by StClair Thomson.)

**The Effect of Certain Occupations on the Pharynx**—S. OPPENHEIM—*Med. Record*, December 16, 1899.

A study of fifty cases, twenty-nine males and twenty-one females, aged from thirteen to seventy. Of the occupations there were weavers, 29; tinsmith, 1; hat manufacturers, 11; tailor, 1; baker, 1; dyers, 3; fireman, 1; carpenter, 1; dressmakers, 11; laundress, 1. These make two classifications; occupations characterized by temperature elevation, and the presence of excess of dust and fibres in atmosphere, 39; occupations characterized by excess of injurious chemical agents (and fumes) in the atmosphere, 11. From this small number of cases the author does not pretend to draw specific conclusions, but rather suggests the following as indicating broader lines than the number of cases:

1. The pharyngeal mucosa of the mill hand under twenty years of age is more susceptible to unfavorable influences than is that of the individual over this age.
2. The inhalation of dust, fibres and chemical agents are the factors of most importance.
3. The majority of industrial workers are affected with pharyngeal disorders, dependent to a certain extent upon their occupation.
4. In those already affected with pharyngitis before assuming these occupations, the morbid changes are augmented by the work.
5. The primary pharyngeal changes are those of acute congestion and inflammation. Chronic changes are the ultimate result.
6. The pharyngitis produced in part or whole by the occupation does not differ in any respect from the ordinary forms.
7. Provided the nasal chambers be in approximately normal condition, pharyngeal affections are much less liable to occur than otherwise.
8. Hygienic measures applied to the environment of the worker are of vast benefit as regards the improvement of his general condition and therefore of the upper respiratory tract.
9. That local care, as has been outlined, will be productive of much good.

F. C. E.

**On the Presence of the Bacilli of Frisch in a Case of Hypertrophy of the Pharyngeal Tonsils**—DE SIMONI—*Riforma Medica*, N. 251-252, Anno XV.

While examining the pathology of hypertrophied tonsils the author found the bacillus of Frisch in the center of the tissue. The identity of this discovery with the form that one is used to observe in rhinoscleroma is confirmed by the bacteriological characters which the author reports, and the morphological and culture characters suggest the derivation of the bacilli of Frisch from the pneumobacillus of Friedlander. This naturally further weakens the view that the bacillus of Frisch is specific for rhinoscleroma.

FERRERI.

(Translated by StClair Thomson.)



**The Relation Between Nocturnal Enuresis and Adenoid Vegetations**—GRONBECK—*Weekly Periodical for Physicians*, 1898, page 1153.

The author first reported his observations upon this subject in 1895. The work is based upon 235 cases of adenoid vegetations. Of these 35, or 15%, had enuresis nocturna. Four stopped spontaneously. Of the remaining 31 results were obtained in 23 only, and after an interval of one and a half years succeeding the operation. Seventeen were completely cured, one considerably improved—the enuresis returning when he caught cold—and in the other two there was no improvement. GOTTLIEB KLER.

### III. ACCESSORY SINUSES.

**Suppurative Ethmoiditis and its Treatment**—FRANK S. MILBURY—*New York Med. Journ.*, January 20, 1900.

From the experience of this observer, necrosis, following a suppurative inflammation of the ethmoid cells, is not as common as some authorities wish us to believe. He has found this complication rather rare, except when due to syphilis, phosphorus, mercury, etc.

His treatment consists in cleansing the nasal cavities with some antiseptic solution and removing the obstruction to force drainage. By far the largest number of these cases demand surgical treatment. The wholesale removal of the turbinals is decried. The history of three cases are detailed, in which annoying symptoms were benefited by surgical measures.

In thirty-nine cases seen by the author the maxillary sinus was implicated in sixteen, eight were carious; there was suppuration of the whole cellular structure in eleven, and in twenty-eight there was anterior involvement. LEDERMAN.

### IV. LARYNX AND TRACHEA.

**Tubercular Laryngitis**—SCHMIEGELOW—*Hospitalstidende*, No. 44, 1899.

The author mentions an illustration showing the difficulty of diagnosing tubercular throat disease. A man of sixty, pale, spare, but strongly built, complained of hoarseness and difficulty in swallowing. Both stethoscope and laryngoscope bespoke tubercular disease. The laryngeal mucous membrane was diffused, red, with cupola infiltration of both arytenoid cartilages. The left false cord was the seat of deep crate-like ulceration which was surmounted by a swelling as large as a cherry. The left side of the larynx immovable. To further corroborate the diagnosis a piece of the mass was excised, but the microscope revealed no tubercles. Thyrotomy was performed, and the diseased tissue removed. Again a microscopical examination was made, and this as well as a later examination showed the disease to be tuberculous. The patient died seven weeks after the operation of acute miliary tuberculosis. In his discussion of treatment the author is favorable to lactic acid pencillings, excision, and galvano-cauterization with strengthening of the system. GOTTLIEB KLER.

**The Complications of Sarcoma of the Skin**—F. MASSEI—*Archivii Italiani di Laringologia*, Ottobre, 1899.

The author insists upon the pathological importance of Kaposi's type of sarcomata of the skin and their unascertained pathology, and he gives a large contribution to the complications of this disease, treating particularly of the complications of the larynx.

The connection between multiple pigmentary sarcomata of the skin and laryngeal localization is clinically and histologically demonstrated in five observations collected by the author.

In the first case there existed infiltration of the mucosa in the first portion of the trachea, with raised nodules of a bright red color.

In a second case the infiltration was in the laryngeal cavity with small scattered nodules on the true and false vocal cords and the epiglottis.

In both the cases the cutaneous lesion had existed for two years; it was scattered over the upper and lower limbs and was going on spreading.

The third observation concerned an individual who was considered to be syphilitic and who was using injections of corrosive sublimate. On the inferior third of both legs there were scattered nodules more or less raised, some irregular, others regular and well pigmented. The laryngoscopic examination revealed an excrescence as large as a nut round, red, and superficially villous, towards the posterior attachment of the left, in the form of a true papilloma, and this was the cause of an aphonic voice.

The neoplasm was removed and examined microscopically by Dr. Martuscelli who observed the following particulars:

1. A covering of pavement stratified epithelium on the outside.
2. A connective stroma, soft with hyperplasia in parts, recognizable by numerous fibro-cellular elements.
3. Various capillaries with normal walls, surrounded by leucocytes, in the neighborhood of the pedicle.

From a nodule removed from the leg the characters of sarcoma were more easily demonstrated, since this nodule was of more ancient date than the laryngeal growth.

In a fourth observation the laryngoscope showed a large, round, red, unequal tumor, with varicose vessels, as big as a nut, implanted on the free borders of the epiglottis. The patient had on the back of his hands and on his forearms red cutaneous zones, brown spots, and some nodules. The laryngeal growth was removed and microscopical examination confirmed the association with the multiple sarcomata, based chiefly on the abundance of fusiform cells found both in the nodule removed from the epiglottis and in a nodule from the palm of the right hand. The plates which accompany the original article demonstrate this.

The fifth observation concerns an individual affected with hoarseness and dyspnea. Laryngoscopic examination showed a tumor on the right half of the larynx on the aryepiglottic field, large as a mulberry, red and movable. On the left hand some nodules were

met with. Having been removed with difficulty at several sittings the neoplasm was found to be identical in histological structure with that of a small nodule from the skin.

The author therefore comes to the following conclusions:

1. Between multiple hemorrhagic sarcomata of the skin and endo-laryngeal sarcomata there exists undoubtedly an indisputable clinical connection.

2. It is to be expected that this connection is more frequent than might be expected from these observations.

3. The skin should always be examined in cases of laryngeal tumor, and the larynx should be systematically examined in cases of sarcomata.

4. The endo-laryngeal complications may assume two types: The infiltrating form, and that of real tumors.

5. These complications may be verified in the course of the cutaneous disorder even early.

6. The laryngeal neoplasms show a preference for the posterior attachment of the cords, the arytenoids, the free margin of the epiglottis, and the subglottic region.

7. They offer the serious difficulties of extreme dysphagia and laryngeal stenosis.

8. The progress may be favorable; removal should always be done *per vias naturales*, especially when the endo-laryngeal complication is early.

9. Removal should be done as early as possible.

10. These laryngeal symptoms show that cutaneous idiopathic sarcomata represent more than a local process; it is a general disease, probably infective and comparable up to a certain point to leprosy and lupus.

11. The title of *Sacroïdes*, proposed by Kaposi, should be preserved, because it denotes with precision the mitigated form.

12. It is probable that the mitigation depends upon the localization in the skin and mucosa, as occurs in lupus (tuberculosis of the skin).

FERRERI. (Translated by StClair Thomson.)

## V. EAR.

### Some Remarks on Perichondritis Serosa Auricula—J. MOLLER— *Hospitalstidende*, 1899, No. 81, page 199.

An historical survey of all published cases, twenty-seven. The author has observed one case in the Policlinic, Copenhagen. Laborer, aged thirty, whose wife in jest pulled him by the left ear. Next day he developed a small lump in the fossa scaphoidea; in eight days it was as large as a walnut, was soft, fluctuating and sore. When incised there exuded a clear, yellow serous fluid. Compression bandages were put on. Within three days the swelling was reproduced. Two days later the cavity granulated—there was no deformity. In the succeeding number of the *Hospitalstidende*, the author reports two new cases; one in a man twenty-nine, which arose spontaneously, a serous perichondritis; the other, in a man forty-seven, developed after a mild trauma.

GOTTLIEB KLER.

**Remarks on the Treatment of Acute Middle Ear Suppuration**

—LARSEN—*Hospitalstidende*, 1898, page 1273.

The investigations were in the Garrison Infirmary, Copenhagen. Eustachian inflation, and insufflation of powders are not used at all. Rinsing of the meatus is not done in the early stages, but tampons of sterilized wadding are employed. These in small wads are carefully packed in filtering paper, and the whole sterilized together in a larger piece of filtering paper.

Of 65 cases 4 were reported by the clinic uncured. Of the 61 remaining, 29 were treated without confinement to bed, and 32 with confinement to bed. The duration respectively was thirty-two and twenty-nine days, therefore little was gained by keeping the patient in bed. In the books these cases are set down as running from four to six weeks, but here it was on an average of about thirty days, the shorter duration being likely due to keeping the patient indoors as long as the suppuration lasted. Half of these patients were treated with instillations of a two per cent solution cocaine in one-half per cent chlor. corrosive hydrarg., five drops three times daily. The other half were treated dry by, *i. e.*, shutting up the auditory passage with sterile wadding tampons.

The duration averaged six days less for those treated without the instillation. The dry treatment has the advantage, and is to be recommended as preventing complications. GOTTLIEB KLER.

**Ninety-six Operative Cases of Chronic Middle-Ear Suppuration—**

SCHMIEGELOW—*Northern Med. Archives*, No. 17, 1898.

The cases are all from private practice, and represent various degrees of the affection. The duration of the disease varied from a few months to fifty years. Special interest attaches to the indications that influenced the author to operate. In two cases the suppuration was complicated with, and dependent upon, a malignant new formation, one sarcoma and one carcinoma.

In thirty-five cases there appeared during the course of the malady acute exacerbations. In sixteen cases the trouble was treated generally for years, but without result. In twenty-six cases the patients were new arrivals, and had not time to subject themselves to conservative treatment. In sixteen cases the duration was ancient, upwards of thirty years, and the destructive process had spread very much. In these there was headache, heaviness in the head, dizziness, sensation of qualm and the victims were unable to work.

In twenty cases the mastoid process only was chiseled, with fifty-five per cent cured and forty-five per cent the suppuration continued.

In thirteen cases chiseling of the cupola only was undertaken by the removal of pars epitympanica. In one of these the malleus was removed, and in twelve both malleus and incus were taken away. In three cases the antrum was opened, and a modified Stacke performed. In seven cases cure succeeded, which continued from one to five years after leaving the clinic. In three cases there was considerable improvement, in one case and in two cases the patient

discontinued the after-treatment. Cure was attained in forty-four cases, which continued from one to five years; in seven cases the after-treatment was interrupted; in nine cases considerable improvement occurred, three became worse in consequence of acute miliary tuberculosis, meningitis suppurative and meningitis tubercular. The cavernous sinus was opened once. In the author's three first cases there occurred traumatic facial paralysis twice, and later it happened a like number of times, but it passed away completely.

In seven patients the middle-ear suppuration was accompanied by endocranial complications, in five patients epidural abscess; in four of these it lay in the fossa cranii posterior, and in only one was it in the fossa cranii media. In two patients there was abscess of the cerebellum. The treatise concludes with a short schematic survey of the cases.

GOTTLIEB KLER.

**The Effect of Atmospheric Changes on the Hearing in Chronic Catarrhal Otitis Media**—S. OPPENHEIM—*N. Y. Med. Journ.*, October 21, 1899.

With a view of ascertaining the detrimental action of barometric and thermal changes upon the already impaired hearing in catarrhal deafness, fifty consecutive cases of chronic sclerosis of the middle ear were studied, through a considerable period of time, to determine the variations in hearing under different atmospheric conditions. The author arrives at these

CONCLUSIONS.

1. The hearing in at least seventy per cent of cases with chronic catarrhal deafness becomes worse under adverse weather conditions.
2. The degree of impairment of audition, as influenced by atmospheric changes, is determined to a great extent by the location and character of the pathological process in the tympanic cavity.
3. The morbid alterations most susceptible to barometric variations are those of hyperplasia.
4. In purely atrophic changes in the middle ear weather variations have little or no effect upon the auditory function.
5. Atmospheric influences also impair the hearing by unfavorably affecting catarrhal processes of the upper respiratory tract and Eustachian tube.
6. All things being equal, the impaired audition in chronic catarrhal otitis is diminished more (under unfavorable weather influences) in those whose general health is below par than in those otherwise healthy.

F. C. E.

**Functional Investigations of Locomotive Hearing and Signal Hearing**—S. STEIN—*Northern Med. Archives*, 1899.

In the introduction he mentions the authors who have reported upon this subject. He investigated forty-four stokers and twenty engine drivers, dividing them into three groups, according to length of service.

Group one, service one to nine years, thirty-nine stokers.

Group two, service ten to nineteen years, four stokers, twenty engine drivers.

Group three, service twenty to thirty-eight years, eighteen engine drivers.

In three cases there was paracosis Willisii, but in only one of these was it severe; subjective sounds in five cases, and in four serious ear troubles were found to have arisen during the service, and in eight there was milder trouble. The hearing tests were performed with great care. Bezold's continuous series of tones were used, and Weber's, Schwabach's, Gelle's and Rinne's tests employed.

As an index for difficulty in hearing, the author adopts 850 cm.; for the whispering voice the numeral 78 being used. This high limit was established on account of the responsibility of the occupation of this class.

In the three groups there was found respectively thirteen (I), nine (II) and eleven (III) deafness, *i. e.*, thirty-three per cent, thirty-seven per cent, sixty per cent respectively; the degree of deafness was most pronounced in groups two and three.

Of the 157 investigated ears 96.91% indicated pathologic lesions, nineteen (11.73%) evidenced impairment of sound conduction; seventy-nine (48.83%) impairment of sound perception; in the rest of the cases the proportions were more doubtful. The difficulty of hearing increased with time of service. In searching out the cause of this malady the author made several journeys by train, standing on the engine, and he describes his experiences minutely. He also tried the sound signals, mouth whistle, steam whistle and detonation with explosion capsules. The mouth-whistle signals were often heard with difficulty. For this purpose he used a metal whistle with continuous blast, in which the tone length is constant, but this was unsuccessful. The other signals were heard very well.

GOTTLIEB KLER.

## VI. DIPHTHERIA, THYROID GLAND, ESOPHAGUS, ETC.

**A Case of Rupture of the Esophagus caused by Vomiting, together with a Table of the Cases hitherto recorded: by Dr. Bowles, Consulting Physician to the Victoria Hospital, Folkestone, and Mr. G. R. Turner, Surgeon to St. George's Hospital—Paper read at the Meeting of the Royal Medical and Chirurgical Society, March 27, 1900.**

Mrs. B., aged sixty-two, after taking overnight a pill of aloes and rhubarb which freely purged her, was sick on taking some milk. She vomited four or five times, and still feeling ill took a tumblerful of salt and water "to clear the stomach." The vomiting caused by this was followed by collapse of an alarming nature and epigastric pain. She was given chlorodyne by her maid, and complained of agonizing pain after swallowing. When first seen the usual symptoms of profound collapse were present; her respiration was gasp-



ing, and she was moaning with pain, which she referred to the epigastrium and dorsal spine, "not on either side," "as if I was breaking in two." She was sure it had "no connection with the bowels."

There was retraction and some tenderness of the upper abdomen, with rigidity of the rectus. All vomiting had ceased since the sudden onset of the pain and collapse. Stimulant and laudanum, fifteen minims given by the mouth, immediately aggravated her pain. It was thought that some perforation of the stomach had possibly occurred, but the diagnosis was by no means clear. She rallied from the collapse, and under the influence of hypodermic injection of morphia her condition somewhat improved, and it became possible to examine her more thoroughly. Her gasping moans, extreme distress and rapid respiration, made auscultation difficult; but as far as could be ascertained, the cardiac sounds were absent and the chest hyper-resonant; there was no dullness. Her symptoms now, some six hours after their onset, were evidently more thoracic than abdominal, and it was decided there was no indication for laparotomy. She was quieted by morphia; indeed, at one time it seemed as if she was too much under the influence of the drug, so that she had to be roused from a comatose condition by coffee, salicylate of caffeine and electricity. Her distress and pain returned as she threw off the effects of the opiates, and emphysema of the neck, soon extending to the face, appeared some five hours before her death, which occurred twenty-two and a half hours from the commencement of the attack.

The post-mortem examination showed emphysema of chest and neck, chiefly on the left side, and left pneumothorax; about six ounces of brownish fluid in left pleural cavity, a small quantity in the right cavity. The posterior mediastinum was infiltrated with similar fluid. The lungs were healthy—the left one collapsed; no tubercle, no adhesions, no rupture of visceral pleura; one and a half inches above diaphragm there was a longitudinal rupture of the esophagus five-eighths of an inch in length, edges thin; no peeling of mucous membrane; no other disease of any kind.

Some remarks are made on the diagnosis of this form of accident from perforation of the stomach, duodenum, rupture of an aneurism, angina pectoris, irritant poisoning, etc. With reference to the surgical treatment, allusion is made to the recent work done in mediastinal surgery by various continental surgeons, and to the possibility of exposing the esophagus in the posterior mediastinum without injury to any important viscus. Drainage of the posterior mediastinum and suture of the rupture is regarded as feasible, and an attempt at such treatment more than justified in what is otherwise a necessarily fatal injury.

The literature on the subject is analyzed, and sixteen other cases are tabulated. It would seem that this class of injury, though rare, is not so rare as usually supposed, and it is an accident that it is overlooked and sometimes confused with post-mortem softening.

Table of sixteen cases appended.

STCLAIR THOMSON.

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## OBITUARY.

It is with much regret that we record the death of another of the pioneers of modern otology, a man who by his individuality, ability and industry won for himself an enviable position as one of the highest authorities and teachers of our science.

Professor Joseph Gruber of the University of Vienna died March 31st. He was born in 1827 in Bohemia; received his medical education in the University of Vienna, taking his degrees as Doctor of Medicine in 1858. For two years he was assistant at the Allgemeines Krankenhaus of Vienna, and in 1863 was made Privat Docent, and conducted his private otological clinic at this institution. In 1870 he was made "Ausserordentlicher Professor," and in 1896 the higher title, "Ordentlicher Professor," was accorded to him.

Over thirty years, then, Prof. Gruber has been actively identified with the popular otological clinic of Vienna which bears his name, and during this time he has contributed largely to the information of the many post-graduates who have attended this otological center from every quarter of the globe.

We remember him as a teacher, blunt, concise, pains-taking and inspiring; as a clinician he was pre-eminently qualified by his large experience with an unusually abundant and varied material; as an authority in otology his opinions were given every consideration.

In pursuing his otological investigations, he practically carved his own way. In 1867 he published a valuable monograph entitled "Anatomo-Physiological Studies of the Membrana Tympani and Auditory Ossicles," which has been recognized as the foundation-stone of our present knowledge of this subject. In 1870 the first edition of his celebrated text-book on otology was published, and though over a quarter of a century has elapsed since this work appeared, there is little which has been recorded in the progress of otology which is not found between the covers of this volume.

Together with Schrötter, Rüdinger, Voltolini and Weber-Liel, he founded the *Monatschrift für Ohrenheilkunde*, of which he has been an active and valued collaborator to the present time.

He was a voluminous contributor to contemporaneous otological literature, and his monographs, clinical reports and critical reviews have appeared in many of the first medical journals of Europe.

Three years ago Prof. Gruber reached the allotted three-score and ten years and retired from his University work.

His death is mourned by the entire otological world and the general medical profession, and we desire, in the name of American otologists, to add another tribute to his memory.

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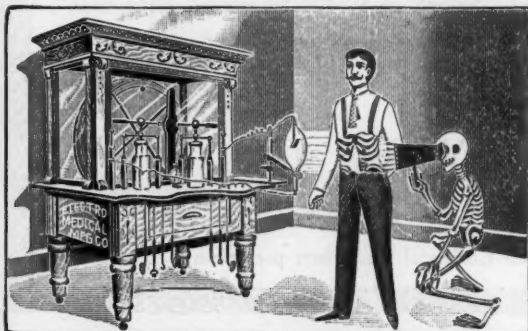
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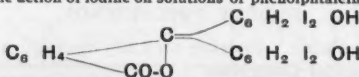
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# NOSOPHEN

It is acknowledged by all familiar with Nosophen that it is superior to all known antiseptics as a healing agent, including iodoform, over which it has the further advantage of being odorless and absolutely non-toxic. Unquestionably it is the ideal antiseptic powder in minor surgery. Possesses peculiar properties making it especially adaptable for other varied employment in diseases of the Eye, Ear, Nose and Throat. It is a strong desiccant, causes prompt arrest of purulent discharges from the middle ear. Both in acute and chronic Otitis Media Purulenta it gives most excellent results, far superior to boric acid. A favorite way of applying it is to syringe the ears with an antiseptic fluid (preferably Antinosine solutions of 1-2%) and then insufflate a small quantity of Nosophen, merely covering the mucous membrane and tympanum. Nasal Catarrh is most effectively treated with insufflations of Nosophen. Being tasteless, it is decidedly pleasant to use in Nose and Throat practice wherever an antiseptic powder is indicated. Nosophen may be freely dusted into the eyes without causing irritation, gives excellent results applied to Corneal Ulcers. Cases of Ulcerative Keratitis are on record in which Nosophen caused rapid healing of the Ulcer and prevented the necessity of an operation.

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## NOTES.

**Obituary.**—Died of acute Bright's disease, November 22, 1899, at the residence of her brother, M. B. Cooper, Garner, Iowa, Mrs. Athalia Cooper Daly, wife of Dr. W. H. Daly, of Pittsburgh, Pa.

**A Remedy Combining the Effects of Phenacetin and Salicylic Acid.**—The chemical composition of a drug sometimes throws much light upon its medicinal properties. This is well shown in the case of salophen, which represents a common chemical combination of salicylic acid with acetyl-paramidophenol. In this preparation we have associated the effects of salicylic acid with that of phenacetin. As pointed out by Dr. Hill in a recent article (*Denver Medical Times*) nearly all the newer antipyretics owe their fever reducing effect either to paramidophenol or to some of its oxidation derivatives. In his own opinion, based upon the experience of several hundred cases, salophen is the culmination up to date for definite therapeutic purposes of the aromatic series of which phenol, salicin salol and salicylic acid are the crude prototypes.

**Report of a Clinic.**—Bernays' reports the case of a patient, æt. fifty, white female. Previous health excellent. Present trouble began with a severe neuralgic toothache, localized in the right lower molars. Paroxysms of pain were of daily occurrence, and most severe in the mornings about breakfast time. The pain subsided temporarily whenever the teeth were pressed firmly together or upon any substance held between them, but only to return when the pressure was withdrawn. The presence of anything cold in the mouth immediately produced the most exquisite pain; moderate heat produced a soothing effect. After two months the pain became continuous, and four molars were extracted without in any way relieving it. She had strenuously avoided the use of narcotics, but during the more active periods of pain, antikamnia in ten grain doses was found to be an efficacious obtunder. After describing the neurectomy, Bernays says: "Eight weeks have now elapsed since the operation and no recurrence of the trouble has taken place."

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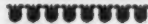


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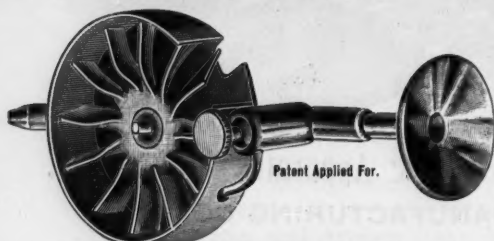
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Specify "Antikamnia LAXATIVE Tablets."

We believe the profession will at once appreciate the uniqueness and usefulness of this combination.

In all diseases and affections where pain and fever are present, a laxative is almost invariably indicated. This is especially true in the beginning of the various fevers; in acute throat, bronchial, and lung affections; and especially in the acute illnesses of early life.

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**Try it on the *patient*** tentatively at first, to see how much and how often, and in what medium, it will prove most acceptable—in water, milk, coffee, wine, grape, lemon or lime juice, broth, etc. A few cases may even have to begin by drops in crushed ice.

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